READINGS IN

IN-SERVICE EDUCATION

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General Editor

I. J. Patel, Vice-Chancellor

Editors

M. B. Buch, M. N. Palsane

SARDAR PATEL UNIVERSITY
VALLABH VIDYANAGAR

READINGS IN IN-SERVICE EDUCATION

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READINGS IN

General Editor

I. J. Patel

VICE-CHANCELLOR
SARDAR PATEL UNIVERSITY

With foreword by

Dr. D. S. Kothari

CHAIRMAN
UNIVERSITY GRANTS COMMISSION

IN-SERVICE EDUCATION

Editors

M. B. Buch

National Council of
Educational Research & Training

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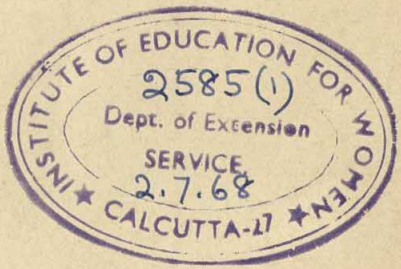

M. N. Palsane

Sardar Patel University

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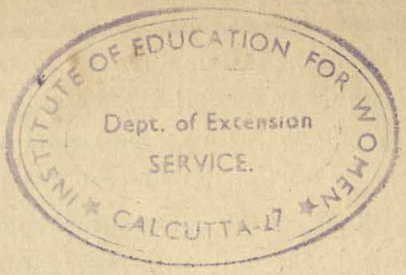
FOREWORD

In recent years the Sardar Patel University has given special attention to development of teacher education. Shri I. J. Patel, the Vice-Chancellor of the University, and his colleagues in the Department of Teacher Education have done a distinct service to all interested in teacher education and its improvement by bringing out the present collection of papers on in-service education. The list of contributors includes several well-known names, Indian and foreign. The book covers a wide range of topics, including a section on in-service education in some of the foreign countries. I have no doubt the book will make a valuable contribution towards stimulating thought and discussion of important aspects of teacher education, and towards improving its contents and quality.

D. S. Kothari

3rd Feb., 1968.



PREFACE

The idea of extension education is not new to this University. In its Faculty of Agriculture, a post-graduate course in extension education is being offerred. As soon as the Secondary Teachers Training College (now M. B. Patel College of Education) was established in the year 1960, it initiated in-service education programmes on regular as well as *ad hoc* basis. Many other departments also have shown keen interest in extension activities. It may, however, be said that extension services are very systematically organized, (i) by the Agriculture Institute in the field of agriculture, and (ii) M. B. Patel College of education in the field of secondary education.

The University has always collaborated with the University Grants Commission, National Council of Educational Research & Training, Central and State Governments, and other agencies in undertaking the responsibility for extension services and particularly in-service education activities. Hence, when the proposal to edit a book of readings in in-service education was placed before the Publication Board and subsequently before the Syndicate of the University, it was approved. I take this opportunity to thank these bodies for the sanction they accorded to the proposal and for making the funds available for its publication.

I also take this opportunity to express my feeling of gratitude to Shri Maganbhai B. Patel for donating to the University, Rs. 5000/- as a trust to start a publication series. The present volume is the first in this series.

I thank all the contributors who wrote chapters specially for this book, and also those authors and publishers who granted permission to reproduce their copyright materials. Without these, the book would not have materialised at all.

I feel highly obliged for the apt foreword written by Dr. D. S. Kothari, Chairman, University Grants Commission. With his foresight and planning, education is being reformed and revolutionised in a number of ways, and in-service education activities constitute a major vehicle to the educational renaissance of our age.

I thank Dr. M. B. Buch for collecting and editing the material from the different sources. I also record my appreciation of the work by Dr. M. N. Palsane in scrutinizing and editing the material and seeing it through the press.

I sincerely hope that the book will be greatly useful to the in-service and extension workers, and the University will continue to promote similar work in future.

Sardar Patel University
Vallabh Vidyanagar

I. J. Patel
Vice-Chancellor

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Our sincerest thanks are due to all the contributors without whose efforts this volume would not have been possible. Our further acknowledgements are due,

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— to the North Central Association, Chicago, whose studies in motivating professional growth inspired Dr. M. B. Buch to conduct similar study which is reported in this volume;

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EDITORS

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[1] A cyclostyled copy of Mr. Fishback's paper was given to Dr. M. B. Buch by someone during his visit to the United States under U.S.A.I.D. Programme. The paper was pertaining to the problems in in-service education of the teachers of English. But the ideas presented are so much applicable in general that we took liberty to make the necessary changes. It is very unfortunate, however, on our part that we have no address or information regarding the author, and consequently we have not been able to obtain permission to print his paper with modifications. We have ventured to do so on two considerations: (1) the ideas presented by Mr. Fishback are very well-organized and elaborate and too good to be missed by a serious student of in-service education; and (2) the book is sponsored by a non-profit making organization, Sardar Patel University.

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INTRODUCTION

The post-independence period in India has seen tremendous explosion in the number of school going children and adolescents. This accepted fact has its repercussions in the form of many problematic situations for Indian education. One of these relates to the staffing of the large number of newly opened schools and expanding facilities in the existing schools. The demand for teachers increased greatly and recruitment standards gradually declined. The situation today is far from satisfactory. One often comes across a headmaster who does not possess any training or experience for carrying on his administrative responsibilities. Carrying out successfully the role of leadership in instructional programmes would be too high an expectation from him. In the same manner one comes across, much more frequently, teachers teaching subjects which they did not study beyond the school level nor in which they had any professional education. Moreover, the problem of professional competence appears quite different from that of paper qualifications. All these issues raise a question of proper staffing of our schools.

What would be the minimum qualifications for being appointed as a teacher of primary or secondary school? If once trained, how long can a teacher teach without undergoing any further reorientation or refresher courses? For that matter it is also questionable whether our professional courses are quite up-to-date even today. It is observed frequently that as soon as a teacher completes his formal pre-service training he is sent for some refresher or in-service courses and to our surprise he does feel that he benefits by them. This naturally raises the question about the adequacy of pre-service courses.

Two major problems facing the profession of teacher education today are: (1) making the pre-service programme more efficient, and (2) organization of programmes for the continued professional growth of the teachers. The pre-service education of teachers has been going on in India right from the beginning of the present century. The programme which has been often thought unsatisfactory, is being continuously reviewed by teacher-educators and educational administrators alike. The same is not the case with the continuing education of teachers or the in-service education programme of teachers. The in-service education programme has completed a decade only a couple of years back. The need for the day is to strengthen the programme of continuing education of teachers and to build up a large network of agencies offering continuing teacher education programmes. This also necessitates developing of clear thinking on the need for such a programme and a large number of educational personnel well acquainted with the theory and practice of in-service education.

The Report of the Education Commission (1964-66) has given special emphasis on the in-service education of teachers and other educational personnel. The in-service education is now coming more prominently than ever into the thinking of educationists and administrators. This is mainly due in part to new programme of curriculum development in the field of sciences and also humanities and in part to the concern of the Government to upgrade the standard and quality of school education. In the light of the new instructional programmes developed by organizations like the National Council of Educational Research and Training, the in-service education programmes assume as great an importance as the pre-service programmes. Constantly changing methods of instruction and restatement of the goals necessitate the reorientation of teachers from time to time.

The pertinent issues which come to the surface when one thinks of in-service education of teachers and other educational personnel are:

(1) The need for in-service education, its theory and philosophy; (2) the incentives for teachers to continue their education and professional growth; (3) provision of facilities for the teacher to continue his education; (4) the agencies that could offer the facilities and organize the in-service education programmes; (5) the role of various agencies like those at the national level, those at the state level, colleges of education, universities, and administrators like school principal, supervisor, etc.; (6) the training of in-service education personnel; and (7) the broad understanding of in-service programmes organized in other countries in the world and their implications for us.

In-service education is a basic need of any professional worker and facilities ought to be provided by those responsible in this field. Institutions can extend their services outside of their premises either through the visits of their staff for consultations, lectures or conducting courses, or through lending of books or equipments. Such services are called extension services — those that are extended beyond the physical limits of an institution. Of these, the services which aim at promoting the professional growth of teachers by adding to their repertoire of skills and knowledge, may be termed specifically as the extension education activities of the institution — professional education imparted to teachers outside the institutional setting. The programmes under this may be of regular or of *ad hoc* nature. These would be in-service courses because the teacher participating in them does so along with his regular job work. In addition to these the school supervisor or principal may also initiate some such programme without any outside assistance, or even a group of subject teachers might come together to

learn some new technique on their own. Such activities which are sponsored by school administrators or by study-circles of teachers are also in-service growth activities. Their purpose is to secure to the participants certain amount of professional growth through the attainment of some immediate or remote goals.

You can take horse to the water, but you cannot make him drink. Motivation for professional growth has to come from within. This is primarily a result of professional consciousness. Secondly, the programmes themselves should have some appeal to the teacher. Just as, in educational philosophy, change came when the attention shifted from Latin to John, similarly in this case also attention has to centre on teacher instead of programmes. Everything should be planned with reference to his needs, his abilities, his convenience, and his benefits. Thirdly, provision of incentives has to be built into the whole system so that a teacher is automatically motivated by it to improve his professional qualifications. Some countries like U.S.A. do already have an elaborate system of rewarding their teachers for additional qualifications.

Facilities for in-service growth is a crucial problem in the context of the vast numbers. The backlog of untrained teachers, the majority of the poorly trained, and the number required to meet the needs for stipulated expansion of facilities for schooling in near future, pose before the educators of this country an unprecedented challenge. The problem becomes all the more serious for us when a similar situation prevails in the case of the teacher-educators as well. Their professional reorientation is more important today if programmes of pre-service and in-service education are to achieve any goals. Once this is accomplished, the colleges of education would be in a better position to provide greater facilities for the professional development of the teacher, and would

assume greater responsibility in the matter. There is no exaggeration in this statement, once it is realised that almost all of our in-service programmes depend for expert assistance on teachers college personnel. Therefore, provision of more facilities as well as provision of better facilities would ultimately depend upon how much leadership can they really assume in professional matters in near future.

Most of the agencies that organize in-service education activities today, depend on teachers college personnel as already mentioned. It is necessary that professionalism develops among them too, so that they can assume greater responsibility in the matter on their own. More responsibility has to be taken by school principals and supervisors as instructional leaders. The district education officer has to professionalise his activities carefully by delegating his administrative routine to the less creative assistants.

Looking to the variety of personnel who would be concerned with the work of in-service education of teachers, one wonders whether all of them could be trained in any way for it. And if they have to be, then what should be the content of their training programme. The people who are to be charged with such responsibility include teacher-educators, district education officers, specialists in the various units of the State Education Departments, the specialists in the National Council of Educational Research & Training (NCERT), experts available with the professional organizations, school principals and supervisors and so on. The first requirement in assuming any kind of responsibility for in-service education would be real expertise in one's own field. The second point is an experimental attitude toward adopting new ways. In addition to these a quality of persuation as that of a successful salesman is also a must. These are a few basic things for the effective functioning of any extension worker as an agent of change.

The advanced countries are advanced, because, they have facilitated their process of change. Change becomes quicker through education. Therefore, these countries must have paid much attention to their education. This is apparent from the examination of systems or programmes in some of the advanced countries like U.S.A. and U.S.S.R. They have built up the systems which would function at the highest level of efficiency and all the above mentioned provisions and considerations for in-service education of teachers for keeping them up-to-date, are actually in operation. Study of their systems alone is, of course, not a panacea for improving our programmes, but it would certainly inspire some of the conscious professionals to face our own problems more courageously.

The need for adequate literature in the area of in-service education has been long-felt. Not much practical and useful literature has been developed which could be easily available to in-service education workers. The Sardar Patel University has a young but fast developing education faculty. Right from its inception the Secondary Teachers Training College (now M. B. Patel College of Education) initiated a programme of in-service education of the teachers working in the schools in the neighbourhood. From 1963 onwards it has a well-established department of extension services meeting the in-service education needs of the teachers. The College offers a wide variety of teacher education programmes ranging from diploma in teaching for the under-graduates, bachelor of education for the graduates to post-graduate courses in education leading to masters' and doctoral degrees. The College is running in-service education programme for the teachers of English and also guidance workers in the form of week-end certificate courses. The University has a special institute preparing teachers of English over a period of one year. It is the first University in the country instituting

five-year teacher education programme for the teachers of English; it also has a four-year teacher education programme for the teachers of Science and Mathematics. The University has a Chemistry Study Unit established by the National Council of Educational Research and Training. The Study Unit is engaged in developing a new programme in school chemistry and trying out the same in the neighbouring schools. The University Grants Commission has sanctioned a year-round in-service institute for the teachers of Mathematics at the secondary school level. With such a wide variety of teacher preparation programmes both at the pre-service and in-service levels going on in the University, it was but natural that the University thought of producing useful literature in the field of in-service education of teachers. The idea of bringing out the present publication was born as a result of continued thinking between the University authorities and some of the officers of the National Council of Educational Research and Training, Delhi. The present publication includes articles originally developed by some of the authors for this volume and articles published in some well-known journals in India as well as abroad.

The book has been divided into six sections. The first section deals with the need for in-service education and the theoretical framework for extension education in India. The papers in this section dwell upon the rationale of in-service programmes in the field of education. In-service education has been launched as a process of growth and development of all concerned rather than the programme of making up the deficiencies. The need is to make certain theoretical assumptions. An attempt has been made at a systematic formulation of theory of extension education defining the relevant concepts and discussing the major principles and assumptions involved. The section brings out clearly the philosophy, the nature and the role of educational extension

and the general implications for the organization of programmes for continuing education of teachers and other educational personnel.

The second section discusses the procedures and practices, the methods and techniques that could be employed in a programme of in-service education. Techniques are directly related to the definite goals and objectives. There cannot be "a technique" for in-service education programme. The extension worker has to choose the appropriate technique from a large spectrum of techniques and procedures suitable to attain a specific goal; for example, a teacher may adopt the well-known action research technique for his own professional growth. This section deals with scientific techniques and methods for in-service education and also dwells upon a wide variety of practices adopted at different places in India for implementing successfully the in-service education programme. This section gives the extension worker a good basic understanding of the expanding extension methodology—methods related to various goals of extension education.

The third section of the book discusses the in-service programmes for different categories of teaching personnel including school teachers, teacher-educators, college and university teachers. The papers in this section deal with some of the vital problems of in-service education of teachers and the organization of such programmes for the other categories of educational personnel. In-service education is not necessarily confined to school teachers. The need for a programme of continued professional growth is necessary for the teacher-educators as well as college teachers. One of the papers in this section stresses the importance of programmes for college teachers and deals with the content of such a course in the expanding field of higher education.

Once it is accepted that the opportunities for the in-service growth are necessary, the problem of roles and

responsibilities arises. Fourth section of the book is devoted to roles and responsibilities of various agencies in the field of in-service education and the training programme for the in-service education workers. For an effective programme of in-service education of school teachers, the school is the first place where such programmes should be started. It is here that the role of the school principal comes into focus. The school principal and the school supervisor have to provide the right type of educational leadership and put the teachers on a path of self-development by providing a wide variety of opportunities for their in-service growth. In a country like India where education is a state subject, the State Departments of Education, through their specialised agencies like the State Institutes of Education, Science Education Units, etc. have a major role to play in the organization of continued professional growth activities for the teachers and other educational personnel. The University Grants Commission in India has to shoulder responsibility for the in-service education of college and university teachers. The universities have to provide an expertise available for the continued education of school teachers. The National Institute of Education of the National Council of Educational Research and Training has come up as the main agency to improve the quality of education at the school level. It occupies a key position in the programme of professional growth of teachers and teacher-educators. It is not enough to provide in-service education opportunities for educational personnel but the NCERT has a responsibility of training workers in the field of educational extension and administration. Two of the papers in this section define elaborately the different roles and responsibilities of an in-service education worker and highlight the major areas of his preparation.

To develop a broad understanding the in-service education worker has to understand the system of in-service education

developed in other countries. The fifth section of the book briefly outlines the organization and the programmes of in-service education in the USA, UK, USSR and Philippines. The programme of in-service education in India was planned with the active involvement of the educational experts from some of the universities in the USA. It is but natural that extension workers in India understand not only such programmes and their organization in the USA but also make a comparative study of similar programmes in other countries in the East and West. The section has been written by authors who have had the first-hand experience of in-service education programmes being conducted in those countries.

Whenever any new programme is started, it is worth while to assess periodically the outcomes of it. This is perhaps the best approach to profit from experimentation. In the sixth section, the practices, techniques and problems of evaluating the impact of extension work in terms of the stipulated goals are discussed. The illustrative material presented is particularly useful to any evaluating agency interested in assessing the fruitfulness of its own programmes or those of others.

An extensive bibliography of books, periodical literature, reports, unpublished materials, etc., is likely to be of great utility to the extension workers as well as research workers in the field of in-service education.

The Department of Field Services of the National Council of Educational Research and Training is the main national organization in India concerned with programmes in the field of educational extension. It has organized a large number of programmes for the school teachers, teacher-educators and administrators in the course of last twelve years. It is but natural that the officers of the National Council of Educational Research and Training have contributed a large number of papers to this volume. The editors express

their sense of appreciation for this cooperation to the National Council of Educational Research and Training. The editors firmly believe that a close collaboration between the universities in India and the premier educational organization at the national level, namely the NCERT, is the only promise for improving the standard of school education and teacher education in this country.

We intend to make a special mention that it is a great privilege for us to have had Dr. D. S. Kothari's foreword to this volume. It was under his leadership that the University Grants Commission started the most fruitful and promising programme of summer institutes for college teachers as well as secondary school teachers. As the Chairman of the Education Commission also he has contributed large volume of thinking on the problems of teacher education. He has made recommendations for the in-service education of all types of educational personnel including teachers at various levels, administrators, supervisors, etc. He has also defined the roles of various agencies in this work and the various forms of in-service growth activities that need to be developed by them. All throughout his Report, he has made specifically pointed observations and recommendations pertinent to in-service education. At one stage, we thought of extracting these comments and giving in the form of an abstract. But, looking to their *frequency*, and their *integration* with the rest of the Report, we felt that the task was not only *voluminous* but *risky*. We refer the interested readers to read them in the original context. A foreword from a person who has made profound contribution to the thinking as well as practice in this particular field of educational enterprise is a matter of pride for us; and we are extremely grateful to him for it.

Lastly we hope that this book of readings will serve a useful purpose of systematising and promotive in-service education in India as well as other developing countries.

EDITORS

SECTION ONE

THEORETICAL FRAMEWORK

In-service education as a programme is of very recent origin. It is the result of rapid changes in the different fields of human endeavour and the need for the professionals to keep up-to-date. When the efforts at individual self-study were replaced systematically by extension of the services of institutions, the rationale and techniques of in-service education emerged. The importance of the need to keep up-to-date in theories and practices has not been so urgently recognized in the field of education as is in industry, agriculture, or medicine. This is perhaps due to the fact that the outcomes and consequences of keeping informed of latest ideas and trends are more obvious and tangible in other fields than in education. Values that are obvious or self-evident to people in other fields, need strong evidence and much convincing argument for being accepted in the field of education. This unfortunate fact accounts for the great lag between educational theory and practice as well as between the process of modernization elsewhere and in education.

The papers in this section of the book describe the rationale of the in-service education programmes in the field of education. Dr. Leonard explains the importance of extension services for continuing education of those in the teaching profession by arguing that learning is a life long process and no amount of pre-service preparation can

equip the teacher for ever. He has further discussed the essential prerequisites of a good programme for ensuring the continuous professional growth of teachers. Dr. Fishback outlines the psychological tenets underlying the assumptions in in-service education programmes. He emphasises this as a process of growth and development of all concerned rather than a programme of making up deficiencies and discusses the theoretical assumptions to be made. Dr. Dave tries in his article to initiate an attempt at systematic formulation of the theory of extension education. He has defined the relevant concepts and discussed some major principles and assumptions involved. Taking the importance of in-service education as granted, Mr. Trivedi goes a step further in his argument to plead for a changing role of extension services in a changing society. Dr. Buch summarises the data he collected to investigate some of the assumptions regarding the motivational and organizational factors. He has found corroborative evidence regarding the various principles and assumptions made in the other papers. The headmasters and teachers have been found to express the same ideas and expectations regarding the nature and role of extension services and its mode of functioning, as has been theoretically expressed through the other papers.

The five papers in this section bring out clearly the philosophy, the nature, and role of educational extension, and the general implications for the organization of programmes for continuing education of teachers including other categories of personnel in the field of education.

I LEARNING IS LIFE LONG

Since education is a life long process, extension services are an essential part of the educational system. No formal training in a college or university can fully prepare a person for professional services; the best it can do is to bring him abreast of existing knowledge and instill in him the attitude which will cause him to seek new knowledge as he progresses in his professional career. Without this attitude and desire, the professional man or woman soon becomes "outdated" and his service limited and ineffective, in some instances even dangerous, because he acts under wrong knowledge.

This situation is especially true for the teacher, for his function really is to prepare children to live in a world which does not exist. The teacher of science twenty-five years ago who failed to teach science as a constantly evolving experimental subject failed to teach

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science properly, no matter how skilful he was in imparting the then known facts of science. Only the fundamental principles and concepts of science, accompanied by an intuitive mind facing the phenomena of nature can serve youth over a lifetime. Facts and applications at any one time become obsolete in a few short years.

The same is true with other fields where research and constant investigation reveal new data requiring new interpretations and beliefs. This is especially true in the social sciences. Economics, politics, international affairs, geographical boundaries, natural resources—all these areas are in a constant state of revision. The course of Indian history has changed since Independence, for instance, and if the school is to serve the cause of national development, it must be staffed with teachers who are abreast of their responsibilities, the changing character of the school, and the directions of national development.

In the area of learning, new investigations are constantly revising our ideas of how and what to teach. The structural organization of the curriculum, the stages of intellectual development of the child, the validity of various methods to gain certain ends, the time and place to introduce principles and concepts, the nature of the transference of learning—all these and other psychological concepts have undergone much change in recent years. They will undergo even greater changes when further research in biology throws new light on the nature of life and of human growth and development. These changes must be known to the teacher if he is to serve society effectively.

Furthermore, all individuals have a tendency to repeat experiences, and teachers especially have a tendency to teach as they were taught. Those who are most experimentally minded will watch and study the results of their experience and will search constantly for help to overcome their diffi-

culties. Those who are less likely to seek help will tend to repeat their experiences, and after a period of time may become fixed in their habits and methods and thereby use procedures which may be obsolete and ineffective. The responsibilities of the teacher as a professional public servant require the teacher to be as effective as known knowledge will permit, and society has a right to expect this kind of service of its teachers.

This burden on the teacher of constant growth, however, becomes more difficult to carry where facilities are not available for him to keep abreast. Books, research findings, demonstrations of successful experiences and instructional aids are in short supply in many areas of India, and especially in the villages and small towns. Therefore, the extension centers are designed to supply the assistance and facilities not otherwise readily available to the teacher. This service is consistent with society's responsibility to assist the teacher in his quest for new and better ways of teaching.

India has launched on one of the most extensive developments in education of any country, and the problems in achieving the goals set by the government and supported by popular demand are most formidable. The problems that grow out of the educational aspirations of India will require the attention of everyone concerned with education for years to come. The training of sufficient teachers, the development of textbooks and instructional aids, the pursuit of research to find answers to problems of learning, the organization and financing of education, the quality of teaching and testing — all these and other problems cry for solution. Already dissatisfactions voiced by educators and the public are enough to spur teachers and administrators into action. To solve these problems, those in positions of authority and leadership will need to plan carefully for orderly development and to enlist the cooperative effort of all teachers and admini-

strators with ability and interest. In order to secure effective results several steps are essential. Let us suggest and examine some of them.

In the first place, a well designed and orderly program for improvement needs to be planned. Educational development for India cannot be left to the notions of everyone, nor will orderly development result from the sum-total of disparate individual activities. These plans will of necessity be geared to the reality of accomplishment and will reflect priorities of activities. Everything cannot be accomplished at once. Resources are limited, and the expansion of education needs to follow, not precede, the increase in the availability of resources. Quality in education is essential to secure effective education. Mass education is effective only to the extent that children are truly educated. Therefore, a realistic plan of development for primary, secondary, and higher education, based upon the most pressing needs of the nation and the ability of the country to provide quality education is of primary importance. This plan will require such determinations as (1) the purposes of education for each level, (2) the numbers to be educated and methods of selecting them, (3) the subjects to be taught to achieve the purposes, (4) the methods to be used to secure the goals and the most modern methods to measure achievement, (5) the number and nature of teachers required and the provision of appropriate facilities to train them, (6) the methods of financing education, (7) the means to use, to retain, upgrade, and improve the teachers already in service, (8) the development of teaching materials, (9) the organization and administration of education, and the education and selection of administrators with appropriate qualifications, and (10) the promotion of organized major research projects required to solve the most pertinent problems. Such planning will require strong action preceded by clear thinking and followed by firm administrative

decisions to keep the activities flowing in conformity with the plan. Once such planning has been done, it should be made known to all, so that the activities assigned to different groups can contribute directly to the achievement of the plan.

In the second place, some resolution should be made of the relative responsibilities of the Central and State Governments for determining basic educational policies and for cooperative action in reaching the goals. Cooperative arrangements between the universities, the teacher training colleges, the educators and the subject specialists should also be made so that all may contribute effectively to the development of the program with common goals and purposes in mind. Decisions on what to teach in the secondary schools, how to determine qualifications for entrance to higher education, how to measure the success of achievement in the secondary schools, and the purposes of secondary and higher education need not be left to individual states or universities; these matters are too important to the welfare of the nation to permit extreme variations or to be based upon individual decisions. Obviously in setting basic policies on such items as those first mentioned, the counsel of all interested groups should be sought so that the decisions reached will be as sound as possible and accepted widely.

In the third place, appropriate teaching materials need to be prepared for the schools of India, both primary and secondary, and made available to all children. Teachers cannot teach and children cannot learn well without appropriate materials for study. These materials should be prepared most carefully, should be based upon a satisfactory syllabus and should be written by a team made up of people who are knowledgable about the nature of children and youth, about the purposes of primary and secondary education, about the subjects to be taught, and who are willing to select and organize the materials of instruction on the basis of the needs

of children and youth and the development of the nation. In this process the domination of the interests of the university should yield to the greater need for a comprehensive secondary school program geared to the needs of all the youth attending the secondary school. Obviously such a step would require a significant change in the curriculum and in the school leaving examinations, so that whatever examinations were used at the end of the secondary school they would be designed to measure success in the total secondary school program. A second set of examinations would then be used by the universities to choose from among the secondary school graduates those most able to succeed in college and university education. At present the school leaving examination is misnamed; rather than a measure of success in a comprehensive secondary school program, it is an entrance examination for higher study.

In the fourth place, a system of supervision of teachers for both primary and secondary teachers needs to be established to up-date teachers in service and to provide in-service training for those inadequately trained. The present system of inspection of schools is not designed to give definite and specific help to teachers in solving their instructional problems. A large percentage of teachers are thus left, except for the work of the extension centers, without sufficient resource materials to keep abreast of progress and without friendly counsellors who are qualified and who have time to study and assist teachers in solving the problems they are facing. Consideration needs to be given to retraining a certain group of inspectors and assigning the supervision function to them and to add others trained especially for performing this function.

In the fifth place a well planned extension service program needs to be set forth designed to provide direct training and to increase the competence of teachers now in service. The extension centers are strategically located throughout India

and could be very effective in bringing to the teachers in service a program designed to contribute to the solution of their problems and to keep them abreast of modern developments. Such a program can be effective when most of the following activities are operating:

1. The center understands clearly its function and has staff qualified to carry the program and facilities available for use.
2. The center has a small enough number of schools to service so that definite gains can be made through intensive work. An occasional meeting with a large number of teachers or a few short visits produce little growth.
3. The center has developed good working relations with teachers and administrators in their area and has made arrangements to draw upon the faculty of colleges and universities in the area to supplement its small staff.
4. The center makes a continuous study of the needs of the teachers in its area by personal contact with the teachers and plans with them a program yearly to serve these needs. This program should always be within the realm of the center to carry out, and the help given by the center must be good enough to be accepted as valuable by the teachers themselves.
5. The center makes plans to use demonstrations, study programs, discussions on specific topics, examination of new materials, planning conferences for action research in the classroom, and personal visits rather than any extended use of lectures.
6. The center proves to be ingeneous in finding and giving to teachers new ideas on materials, methods, teaching aids, and any and all kinds of ideas which

will stimulate them to improve. The construction of inexpensive aids, the use of field trips and extra-curricular activities, cooperative building of tests, experimentation with plans—all these, coming from the extension center, will extend the teachers' knowledge and methods.

7. The center, by working with the school systems, encourages teachers to experiment individually and in groups, with new ideas for the organization of classes, of content, of curriculum patterns, of experimental practices and assists teachers in drawing conclusions and in putting into use the changes proved effective.
8. The center becomes a source for reading, discussing, and exchanging ideas; it should not be a godown. When teachers want books and suggetions for aids, when they want to learn to make new visual aids to use, when they want to know what others are doing, when they want to examine and learn to make good tests, they should turn to the extension center.

If the extension centers are to serve the teachers effectively they should be identified closely with the national goals of education and with the National Institute of Education, who should serve them with ideas and materials to enable them to perform their function. New books, findings of research, new ideas for organizing and teaching subjects, new tests and research suggestions, syllabi, activities to be tried—all of these things could flow from the Division of Extension Services of the National Institute of Education to the extension centers. This Division would, in turn, be requested by the centers to assist them in every way possible and should make known their needs, as well as their successes to this Division of the N.I.E. This function of the Division will require vision, foresight, and prompt actions.

In addition, the coordinators of extension centers can be effective only if they are abreast of newer developments, and if they can convey effectively ideas of value to teachers. These coordinators should, therefore, drink regularly at the fountain, and should be brought together each summer for a period of six weeks to learn how to solve the problems they face in working with teachers, newer methods and materials, how to make and use instructional aids, and the ideas behind new developments. They cannot continuously give out water from their barrel unless it too is replenished. This service should be an important function of the Division of Extension Services of N.I.E.

If the extension centers are to serve their function they must be like tanks of water to which all come to drink and get refreshed. Each one should, therefore, seek to evaluate regularly its success, not in terms of the number of teachers visited, but in terms of the gains made in the instructional process and in the satisfaction and appreciative attitude which teachers show toward the center. People tend to continue to call voluntarily when they are welcome and satisfied. If the centers can know the teachers in their area, can know what will be most helpful and acceptable to each teacher, and can gain the reputation for being a source for ideas, they will become invaluable to the teachers of India.

II IN-SERVICE EDUCATION CONSIDERATIONS

— Psychological Factors

In-service education, whether individually or group initiated, is a process of working toward change. Viewed in terms of human behavior the changes are ordinarily identified as gaining new knowledge, increasing understanding, acquiring more desirable attitudes, and strengthening interests. Viewed in terms of materials, media, and knowledge itself, changes may suggest exploration, evaluation, modification, amplification, and elimination. All of these latter processes, also implying personal involvement, both contribute to behavior changes and lead to changes in administrative and teaching practices.

From a psychological standpoint, change and the means to change are intimately related to feelings and emotions. The historian, Toynbee, in writing about change, has this to say:

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"Change cannot be brought to a halt. To try to halt change is to court an explosion. The constructive way of dealing with the inevitability of change is to make changes voluntarily before they impose themselves. The eariler we take action, the wider will be our range of choice. If we foresee a necessary change soon enough, few shall have some chance of guiding it into channels in which its effect will not be devastating, but constructive."

Teachers, are feeling the impact of selected societal pressures. New problems resulting from pressures and/or changes imposed contribute to tensions. Traced somewhat sketchily, the psychological factors associated with sustained professional growth among teachers may be stated in these questions:

1. How sensitive or resistant (if not both) is the teacher to improving his teaching practices?
2. How flexible is his attitude toward change in terms of his present teaching situation (toward learners, facilities, methods, and materials)?
3. How intrinsically motivated is he toward participation in in-service education activities?
4. To what extent does he pursue self-determined goals leading to constructive changes in teaching practices?
5. How objective and cooperative is he toward the in-service education suggestions made by others?

Psychologically, the administrator has responsibilities to inspire, encourage, stimulate, facilitate, coordinate, and evaluate. Each of these acts imposes numerous obligations on his part, to maintain an acceptable climate for growth. Staff morale will vary in proportion to his ability to carry out the above acts in a spirit of democratic leadership. Democratic leadership refutes an imposed, tightly directed pattern of in-service education which holds little or no consideration of individual teacher needs.

Of the best leaders;
The people only know that they exist;
The next best they love and praise;
The next they fear;
And the next they revile;
When they do not command the people's faith;
Some will lose faith in them;
And then they resort to recriminations!
But the best, when their task is accomplished;
Their work done;
The people all remark;
"We have done it ourselves".

Lao-Tze (c. 600 B.C.)

Role of the Administrator

Positive leadership is expected by most teachers and, if provided in terms of democratic principles, will be respected. Therefore, the school administrator has various roles in making his leadership effective and dynamic. To promote professional growth among the teachers on his staff, he will develop himself to serve as, (1) an initiator, (2) a stimulator, (3) an interpreter, (4) a co-ordinator, and (5) an evaluator.

As INITIATOR: — Not all teachers are self-starters in terms of tackling curriculum problems, the study of which can fortunately result in teacher satisfactions throughout a school system. The effective administrator will do his share in initiating in-service growth activities. The term *initiate* means more than to simply stimulate.

In the role of initiator, the administrator assumes responsibilities for helping identify and define problems and objectives related to a plan of action designed to achieve teacher growth. Carrying his share of the load in both the pre-planning and the actual planning phases of in-service

projects is very important. The quality of the in-service education programme is what counts, and the administrator is in a key position to initiate a programme which will result in both immediate and long-range teacher satisfactions.

Those who initiate in-service education projects and/or programmes for a group of teachers should make discrimination tests as the following:

1. Will the proposal be challenging to teachers and contribute to their morale?
2. Can the proposal be judged as practical?
3. To what extent does the proposal reflect possibilities for universal usage, or will it satisfy merely the whim of a single teacher?

Some in-service education projects for teachers may be short-lived when:

1. The objectives are not well defined.
2. There is a lack of appreciation of change, and resistance to change is deep-seated.
3. Intrinsic motivation is lacking, and a spirit to maintain the status quo prevails.
4. It is difficult for those involved to accept criticism of resource personnel without resisting and showing their resentment which, as a rule, negates positive growth and constructive change.

As STIMULATOR: — Curriculum improvement depends, to a large extent, upon the administrator's real concern about the instructional programme. Teachers, take cognizance of what heads the administrator's *priority list* in carrying out his school days.

The administrator can promote enthusiasm for in-service growth activities among teachers not only by showing interest in their special problems, but by involving them in the decision-making regarding over-all problems of educational

programming. Through suggestion systems which are really followed, buzz sessions, and other approaches which allow classroom teachers to participate, the administrator not only stimulates study and thought, but provides a climate for teachers to grow in self-respect, self-importance, and self-development.

William Dusel in a report to secondary school administrators in 1962 said: "The library, once the heart of an educational institution, is apparently one of the last items to be considered in many school building programmes or in annual school budgets." If teachers are to do much about individualised instruction and meet individual differences well, administrators must champion library materials and equipment as very important items in their school budgets.

As INTERPRETER: — Few teachers are well trained in the area of research. The administrator, because of his special training at an advanced-degree level or through staff assistance, is looked to for help by teachers in the matter of research interpretation.

Research findings accumulate rapidly these days, therefore, the task of reviewing, screening, and utilising the findings becomes larger day by day. Teachers may not be familiar with the numerous studies reported in such sources as *The Encyclopedia of Educational Research.*

Administrators need to condition teachers to recognise the significance of research efforts on their behalf. Likewise, carefully planned sessions on research interpretation should result in aroused interest on the part of teachers to experiment — at least as a beginning step — and to re-test findings of selected research studies in their own teaching situations.

As CO-ORDINATOR: — The co-ordination of educational efforts has emerged fairly recently with reference to leadership

responsibilities. In many high schools, subject departments have been organised. Although a department head is designated, the school administrator finds the task of releasing and coordinating the work of an expanding school staff more difficult and time-consuming.

A persistent problem in many high schools is that of teacher load. Teachers oftentimes have expressed legitimate gripes. Antecedents of the gripes are in unreasonable number of different pupils to work with during the course of a school day and week, an excessive amount of after-school paper work (indicating criticisms on written papers of students and scoring for grading purposes), and extra responsibilities related to the fields of extra and co-curricular activities.

The extent to which moanings among teachers are heard varies with the sensitivity of the school's administration toward a serious effort to achieve an equitable distribution of teacher load (including extra and/or related responsibilities). Likewise, the size of the school (student population and number of staff members), the adequacy of school finances, and the extent to which special services exist have a tendency to influence the load distribution among teachers.

In February, 1963, the Research Division of the National Education Association reported that in all secondary schools the average class size (regardless of subject field) is 26·6 pupils; the median class 27·1; high school classes in the largest school systems are almost one-third larger, on the average, than those in small school systems. The foregoing figures at first glance may not look bad, but the total number of pupils that the teacher has in all his classes has a direct bearing on the overall teacher load problem. Nationally, this average is 156 pupils per teacher. This figure, says the NEA Research Division, however, ranges from 128 pupils in the small districts to 191 in the largest. In other words, the big city secondary school teachers, as compared with the rural or

small-town teacher, has about 50% more homework to check and one-half again as many tests to grade.[1] The administrator should take appropriate measures to see that the work is distributed on a rational basis and teachers have not to carry out a great deal of clerical work.

From a sampling of practices[2] and policies regarding teacher load, school administrators should give careful consideration to the following:

1. When a teacher has more than 100 students, he should have assistance.
2. If the teacher is teaching accelerated classes, he should have fewer than 100 students; similarly when working with slow learners.
3. Classes should not have more than 25 students, except classes of slow learners (20 students or less).
4. The maximum number of classes per day should not exceed four with an additional homeroom period per day.
5. Extra responsibilities should be equitably assigned and released time provided when duties are extremely demanding on time and energy (examples of yearbook sponsorship and school newspaper production).
6. Lay readers should be provided for every two English teachers having a full load.

Working toward maximum teacher effectiveness is an ideal, yet not too unrealistic for administrators to pursue. As staff coordinator, the administrator needs to be sensitive to on-the-job hazards to teacher effectiveness. Teamwork among teachers within a school system cannot be expected

[1] National Education Association Research Bulletin, 41 (February, 1963) 25-26.

[2] William J. Dusel, "Determining an Efficient Teaching Load in English", *Illinois English Bulletin*, XL (October, 1955) 1-19.

if only a "select" few are recognised for their efforts, or if poor human relations among teachers are ignored they ultimately lead to open professional jealousies.

Specifically, to promote teacher growth, the administrator is most effective in his role as co-ordinator when he:

1. Provides teachers with adequate facilities for teaching — attempts to honor their requests for supplies and equipment when accompanied by statements of justification.
2. Encourages co-operative approaches in the solution of problems held in common by teachers.
3. Avoids involving teachers in what they perceive as *useless* meetings and/or spending large amounts of time on trivial matters (sometimes interpreted as clerical chores).
4. Cultivates mutual respect among all teachers regardless of areas of specialisation and/or assignments. Those who deal with remedial groups should have the feeling that they are contributing to the welfare of the nation's educational needs equally as much as those who teach a highly gifted group.
5. Recognises a teacher's successful efforts in some special class-activity category.

As EVALUATOR: — More vigorous attempts should be made to make the evaluation of teachers' work a meaningful activity. By adopting some new evaluation criteria, teachers can be encouraged to modify their objectives and teaching practices. Innovations suggested for incorporation in evaluation procedures follow. These are a far cry from the typical items found in rating scales used in numerous school systems today.

1. The teacher's emphasis on creativity in teaching (reflected in planning classroom methods, in encouraging purposeful class discussions, and in evaluation).

2. The teacher's emphasis on problem-solving (as contrasted with a super concern about the acquisition of factual information).
3. The teacher's emphasis on psychological factors related to learning (proper motivation, utilisation of multi-media to strengthen first learning, and reinforcement to insure as much permanence of learning as possible).
4. The teacher's emphasis on balance in instructional efforts (sufficient system in methodology to lead students to become more active and more self-directive as time passes; avoidance on the part of teachers to go to extremes on evaluation vs basic explorations of content through lecture, research, discussion, and analysis).

Role of the Teacher

Actual change in curricular designs in teaching practices, and in attitudes toward improvement are directly dependent upon the teachers. In the last analysis, it will be the teacher's responsibility to come to grips with specific problems at the classroom level and ferret out operational ideas which seem to work in the best interests of the learners under his supervision. Shakespeare on Confidence and Courage said:

"Our doubts are traitors,
And make us lose the good we oft might win,
By fearing to attempt."

(Measure for Measure/1604)

Accepting the challenge inherent in the responsibility of trying to grow in service, teachers should:

1. Identify and use a wide variety of professional aids. These are too numerous to discuss at length, but professional organisations, their official personnel,

and their publications are invaluable resources. They should have high priority on the teacher's time in his efforts both to keep up-to-date and to validate his own practices.

2. Participate in curriculum planning and building. Although the administrator shares the responsibility of initiating in-service growth programmes, each teacher should be a self-starter with respect to improving himself. In honoring his professional conscience, he should initiate plans of action and, when practical, swap ideas with his colleagues and profit from their suggestions. A deterrent to real growth lies in the fact that many teachers talk themselves out of good ideas oftentimes before the ideas are tried out. This lack of confidence can be reduced greatly by teachers cooperating on joint projects. Joint participation can help offset individual insecurity as a rule and certainly can contribute to the development of a common-cause point of view with respect to curriculum improvement.
3. Provide ideas and assistance to other subject-matter specialists.
4. Nurture wholesome working relationships with other teachers and service personnel (the librarian, audio-visual director, and guidance and testing personnel).
5. Continue to strengthen selected professional practices. Examples include:
   (a) Reading and re-reading.
   (b) Cultivating a research attitude.
   (c) Using instructional media such as tape recorders to improve speaking voices. Teachers should have a well-modulated voice, one that serves as a good example for others.

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(d) Accenting the positive when speaking of one's work — enough of the negative *shows* even when one is watchful.

6. Read thoughtfully and thoroughly professional periodicals in one's own subject area.

Patterns for Strengthening Classroom Practices

Teachers need in-service education directed toward four aims: (1) increased knowledge of subject matter; (2) shifts in attitudes and perspective; (3) greater skll in teachin g methods, and; (4) assistance with local curriculum problems. How to aocomplish these four aims is discussed next.

Suggested Projects for In-service Education

Projects and activities will vary with the size of the school staff, the range in age and experience of teachers, and the needs as related to the school population (sometimes reflected in socio-economic surveys of students' backgrounds, parental aspirations, and follow-up studies of high school graduates).

Selected in-service education projects which have merit are:

1. Projects which assist the young and immature teacher particularly, yet at the same time fill the gap between generations of teachers. Such projects help prevent the division of faculty into opposing radical and conservative groups. Team teaching is one approach.
2. Projects which hinge upon sharing materials and nurture cooperation in all-out staff efforts to profit from each other's ideas. Such sharing reduces

duplication, promotes mutual respect, and helps teachers see themselves, and not someone else, as the agents of growth.

3. Projects which are sponsored by professional groups and institutions of higher learning. Teachers who participate in the conferences, seminars, travel tours, study sessions, institutes, and other activities sponsored by the above agents and/or organisations have excellent opportunities to see their professional problems in a broader perspective, to validate or reject their own classroom practices, and become better acquainted with state and national trends in the expansion of knowledge.
4. Curriculum improvement projects involving outside consultants. Projects of this category ordinarily take the form of intensive committee work leading to a reorganisation of the curriculum, the analysis of special problems, experimentation, and special surveys. Resource personnel used most often are those in education departments of colleges and universities and staff members of the State Superintendent of Public Instruction.
5. Action research is another way to help teachers improve their insights about the learning process and what classroom practices merit further usage or elimination. Since action research is usually focused on curriculum improvement as far as teachers are concerned, it is not uncommon to involve specialists who are very familiar with research design and research method.*
6. Interdisciplinary approaches to the study of curriculum problems should not be overlooked. Although

* Detailed discussion of this technique is given in Dr. Corey's paper.

closely related to general curriculum improvement projects, the interdisciplinary approach has some unique features in its favour. Through a series of carefully planned faculty sessions, all teachers in a school system can gain a greater appreciation of the role of effective communication in our social order.[3] Intensive study of communication problems can help teachers become more aware of the need to assist language teachers in working with students on:

(a) vocabulary development,

(b) spelling accuracy, and

(c) special skills in reading technical material.

7. Developing an integrated programme for teaching the language arts is as promising a procedure for high school programming as it has proved to be in elementary schools. For at least three decades the old programme of "twenty minutes" of language, "twenty minutes" of spelling, "twenty minutes" of composition has been disappearing—rapidly so during the last ten years.

Detroit, Michigan staff members endorsed the idea of an integrated language arts programme in the early 1950's. To achieve understanding and system-wide usage of the integrated approach, the following factors helped spell success for the curriculum project in Detroit:

(a) Unanimity of agreement and purpose existed in the minds of all participants in the supervisory level.

[3] *Communication in The High School,* (Speaking and Listening) Illinois Curriculum Program Bulletin D—1, 1961.

(b) Administrators responsible for making decisions and changes in all parts of the system were involved in the planning.

(c) Utmost care was taken to foster good human relations, respecting scrupulously the authority vested in each administrator and supervisor and the importance of each individual teacher.

(d) Teachers and principals were made to feel secure in their positions. Criticisms of present methods and suggestions for improvement came from the participants. No one's status was jeopardized.

(e) "Natural" leaders among principals and teachers were encouraged and given free rein to use their particular talents. Through sharing and acknowledgement, each creative effort was recognised by the large group as a valuable contribution.

(f) The study stressed the practical and the useful. Techniques and instruments that had been tested in actual practice were communicated to others. Teachers were quick to profit by the "teacher-helps and suggestions" that began to appear early in the study.

(g) And last, but not least, there existed a forward looking and understanding kind of leadership on the part of the administrator that encouraged every effort for instructional improvement.[4]

The ultimate objective of the Detroit project in English language communication skills was to produce a well integrated individual who would realise and make use of the interrelation that exists among the different language arts and other

[4] Clarence Wachner, "Changing the Language Arts Program in a Large City System", *Educational Leadership* XIV (March, 1956), 356-61.

subject matter areas. In-service education of all teachers had to take place. This was successfully accomplished in Detroit and there are numerous implications of the project for reorganising the language arts programme and instructional practices in other high schools.

In-service Education Guidelines[5]

In summarizing positive facts and some possible pitfalls in the consideration of teachers and in the in-service education program, the following generalisations seem relevant:

1. In-service education means a program by which *all persons* engaged in education learn and grow together, not a program for making up teacher deficiencies.
2. An interested, fair-minded administrator is essential to the success of any in-service program.
3. The emotional climate which prevails in the in-service program is as important as the goals sought and largely determines the goals attained.
4. Teachers should have some part in setting up programmes of in-service education, if only the privilege of voting on several plans, preferably more than two.
5. Individual differences among teachers should be recognised in setting up in-service education plans. Sometimes recognition of these differences will require different activities and projects for beginning teachers; for teachers new in a school system or a school building but not new to teaching; for teachers at the same grade level; and for teachers at all stages of professional growth who need and want in-service programs

[5] Adapted freely from National Society for the Study of Education (NSSE Yearbook: *In-service Education*), 151-52.

of depth and take into account innovations and new dimensions of teaching.

6. A primary purpose of in-service programs should be the development of increased sensitivity to the viewpoints of others.

7. The boundaries of teacher participation and decision-making within each school should be clearly defined so that in-service groups will know what problems they are free to tackle.

8. Good communication at each level and between all levels of the school society is necessary for the maximum success of in-service education guidelines in action.

9. Conflicts between administrative values and goal values are more easily solved when discussed frankly by teachers and administrators.

10 Time is the most pressing resource problem in in-service education. In areas where the level of teachers' salaries makes it necessary for family heads to undertake supplementary jobs, in-service education should not involve after-school time. Such education should be an opportunity, not a penalty. In general, released time should be granted to those teachers who are working actively upon local curriculum projects.

11. Evaluation of in-service programs by *evidence* of improved classroom teaching is the best evaluation, but we need many studies to help us discover why and how teachers change their perceptions and how those changed perceptions result in improved learning experiences in the classroom.

In-service Programs

Since school systems and their professional staff members —like pupils and people in general—work only at problems or activities in which they are interested, the Office of the Superintendent of Public Instruction in cooperation with the Office of the County Superintendent of Schools should encourage local school systems and their professional staff members to carry on continuous in-service programs to improve their services to pupils and the community they serve.

Effective in-service programs cannot successfully be made compulsory either for a school system or its professional staff members. Only as a school system and its staff members feel that they can profit from participating in in-service programs, will such programs be accepted and supported.

The goals of in-service programs should be to help staff members better meet the needs of all the people the school should serve. This involves study by the staff—with the help of consultants and resource persons if such helpers are wanted—of the characteristics of its pupil population and the needs of the different persons to be served, as well as cooperatively developing a more effective way of serving the pupils.

III TOWARDS A THEORY OF EDUCATIONAL EXTENSION

The concept of educational extension is relatively new in India. Although there have been some stray efforts made in this direction by some universities and other agencies by organizing extra-mural lectures and extension talks, a systematic and comprehensive movement of educational extension on a mass scale is indeed of recent origin. It was in 1955 that a comprehensive programme of educational extension on a national scale commenced when the Union Ministry of Education created a body called the All India Council for Secondary Education which was charged with the responsibility of bringing about qualitative improvement in education at the secondary stage.* The Council accepted educational extension as one of the chief measures for the fulfilment of its goal. As extension education was new to the pioneers of the Council and as they adopted this

* Detailed history ot educational extension in India is given by Dr. M. B. Buch in Section Three.

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measure as a hypothesis that it should bring about qualitative improvement in secondary schools, they described it as a "venture of faith".

One of the concomitant outcomes of the introduction of educational extension at the secondary stage has been its spread to the elementary stage. As a result of a decade of vigorous efforts made by the erstwhile Council, the DEPSE,* and other agencies, educational extension has now been accepted by educators as one of the potent means of bringing about qualitative improvement in education.

During the first decade of educational extension in India, most of the developments took place in this area on an *ad hoc* basis. The extension services departments started functioning with a general goal of helping the neighbouring schools and teachers in their academic pursuits. They experimented upon different programmes; some of the programmes became successful, some others did not. With the change in the personnel in charge of the extension departments, the programmes and also emphasis on different areas of work changed. Most new extension centres and units studied the programmes and practices of old centres and followed them. Many of the new personnel who were put in charge of the extension services departments either as honorary directors or as co-ordinators experienced difficulties in finding out the purpose and scope of their work. Some of them had difficulty in locating the appropriate clientele for their services. Some extension centres organized programmes for students also. Some others concentrated their programmes on student-teachers of their colleges. A need for the training of extension workers was realized much later, although a scope was created for the informal contact among extension workers right from the beginning of the movement. While

* Directorate of Extension Programmes for Secondary Education

assessing the work of extension services departments and while discussing their programmes in state conferences with honorary directors, co-ordinators and the representatives of the State Education Departments, it was discovered that there was considerable variation in the images of different educators with regard to the purposes, functions and scope of extension activities. One of the chief reasons for all these variations is that the basic principles on which educational extension should be based are not yet identified and formulated in the form of a theoretical framework. The concept of educational extension is not yet explicitly clarified and its relationship with other related concepts has not yet been clearly established.

Need for a Theoretical Framework

Educational extension is, by itself, a stage of education. Therefore, it cannot attain a level of maturity and stability without a well-defined theoretical framework. It also cannot grow in the correct direction and cannot become dynamic and self-perpetuating, if its developments take place on an *ad hoc* basis without having any theoretical reference points and boundaries. It is, therefore, essential to develop a clear-cut theory for this stage of education and identify the concept of educational extension, major assumption on which it is based and its basic principles.

The significance of having a theoretical structure for educational extension cannot be over-emphasized. It should become helpful in identifying definite and functional objectives of educational extension. The theoretical framework would indicate the scope and limitations of educational extension, which in turn should guide the extension workers in developing their programmes and techniques, judging the relevance or otherwise of new programmes, and also evaluating the effectiveness of extension work. The theory

should also provide guidance in developing curricula and techniques for training extension workers. The new entrant in the field can internalize the value of educational extension and can form more realistic expectations about the outcomes of educational extension by studying the theoretical framework. The appropriate agencies responsible for making provision for educational extension and the clientele of this area of education can also be visualized in a more comprehensive manner if the theory of educational extension is clearly understood. Also, the basic constructs of educational evaluation should provide valid criteria for the assessment of the entire programme of educational extension or some aspects of it. Even for a scientific experimentation or research, enunciation of a clear cut theoretical framework is absolutely essential. A sound theoretical framework should contribute substantially in stabilizing the field of educational extension and then ensuring its growth in the right direction.

Hardly any attempt has been made so far to formulate a theory of educational extension in a systematic manner. However, the work done by DEPSE and other institutions in this field was undoubtedly based on certain implicit principles and assumptions. Therefore, the experience gained by the personnel who have worked in the field of educational extension during the last decade should be of immense value in bringing these basic principles together and in developing systematically a theory of educational extension. The present paper makes an attempt to initiate and stimulate thinking of extension workers and educators in this direction.

The Concept

As the concept of educational extension is yet new in the Indian educational parlance, it is necessary to define it and to identify its characteristic features. It is also nece-

ssary to establish its relationship with other relevant terms and concepts such as pre-service teacher education, in-service teacher education, higher pedagogical education, and even adult education.

Extension education may be defined as continuing education of teachers and other educators which commences after initial professional education is over and which leads to the improvement of professional competence of educators all throughout their career.

Thus educational extension is a stage of education and is also a part of total professional education of teachers and other educators. It is often described as in-service teacher education because this education is extended to teachers and other educators while they are in service. A teachers' college which has hithertofore been in charge of pre-service training of teachers has now to expand its concept of teacher education and has to extend its function by providing continuous education to educators in service. Other institutions and organizations may also have to participate in providing in-service education to teachers and other educators. Thinking in terms of agencies involved in this task, it may be stated that teachers' colleges and such other agencies have to extend their facilities and resources as well as new knowledge and skills to educators who are already in service after receiving initial education to commence their career, and therefore for them, this process may be called educational extension. For the educator, however, it becomes in-service education. Sometimes in-service teacher education is identified with training courses of varying duration. It may, however, be observed that in-service teacher education is a process as well as a stage of education whereas training courses are only the programmes. Many other programmes and activities of varied types can be devised to provide continuing education to teachers. In order to include these programmes,

the concept of in-service teacher education may be expanded further which then should become educational extension. With this modification, it becomes difficult to differentiate between in-service teacher education and educational extension. Any effort to decide whether the former is more comprehensive and includes the latter or *vice versa* is likely to remain just a mental exercise and perennial debate of little significance, and hence it is very desirable to establish simplicity in using these terms by considering them as synonymous.

The relationship between pre-service education of teachers and educational extension is quite clear. The former constitutes the initial stage of teacher education whereas the latter covers the continuing stage of it. Both together cover the entire stage of teacher education in a sequential order. (It need not be mentioned that the term teacher includes other educators as well.) Such a relationship implies that educational extension should be articulated with pre-service teacher education by establishing a well-integrated continuity and sequence through curricula, programmes and activities. It may be interesting to note that these stages of teacher education have a common basic purpose. Both of them aim at the improvement of professional competence. However, pre-service teacher education may largely cover basic knowledge, skills, and attitudes that are necessary for a new entrant in the profession, besides certain other aspects of training which emanate from the existing educational programmes in schools. Educational extension, on the other hand, is more aligned to the changes and new developments in content areas, techniques of teaching, school curricula, social needs, job expectations and so forth which demand from teachers and other educators, acquisition of new knowledge and skills, modification of attitudes and interests, and readjustment of their goals as

well as their perceptions about education and society. Educational extension is, thus, more concerned with new changes and innovations. It is also more concerned with the changes that are brought about from time to time in school curricula, textual content, teaching techniques, and various other aspects of education through which education is kept dynamic and socially effective.

The relationship between higher professional education and educational extension also merits a special mention. One of the major points to be considered here can be made more specific by a concrete example. A teacher, after obtaining a B.Ed. degree, joins a school. Soon after or after a few years he joins a week-end or a vacation course leading to M.Ed. degree, but continues his service as a teacher. Now the question arises as to whether this education can be classified as educational extension. The answer is somewhat difficult and the situation requires further analysis in terms of the characteristic features of educational extension. As enunciated earlier, educational extension leads to the improvement of professional competence. The M.Ed. programme may also fulfil this goal. The M.Ed. programme also starts after the initial training or B.Ed. degree; extension programme also commences after initial education. Thus there is a good deal of overlap between the M.Ed. programme and educational extension. However, it may be seen that the M.Ed. programme is of a fixed duration and it terminates after certain requirements are fulfilled, whereas educational extension continues in one form or another all throughout the professional career. Moreover, the M.Ed. programme may or may not be aligned to the new needs and developments in the schools where the teacher works, it may be quite a theoretical programme and may be only remotely connected with the changes in school curricula, text-books, or even social needs. Very

often, it becomes just an initiation programme in some entirely new subjects which are normally not included in pre-service professional education. Thus, there are certain significant differences between higher professional education leading to a degree or a diploma and educational extension. Therefore, it is not appropriate to consider an M.Ed. programme or any other programme of higher professional education as a part of educational extension even though there are certain overlapping elements between the two. It should, however, be noted that the personnel who have received higher professional education may require educational extension at a higher level in order to continue their in-service education in the area of specialization for keeping their knowledge and skills growing and up-to-date.

Educational extension is only one type of continuing education. It specifically pertains to the professional personnel in the field of education. But continuing education is necessary in any profession which is growing and changing rapidly. Agricultural extension is an example in which a great amount of work has been done in several countries. Similar developments are taking place in medicine, engineering, industrial arts and some other professions. All professions where new changes and innovations come about at a rapid pace and where these new innovations and developments are put to use without delay, extension programmes are necessary for the purpose of providing continued education to the practitioners. Extension activities in various professions are themselves in a process of development and stabilization. It is hoped that in course of time studies would develop to understand points of similarity and differences between the theory and practice of educational extension and those of other professional extension in order to evolve a more comprehensive concept of continuing education.

It may also be seen that educational extension is meant for adults, and as such it is a part of adult education. There are various categories or aspects of adult education, and educational extension falls under the category which aims at provision of adult education for the improvement of professional competence of enlightened adults. This point becomes relevant at this stage for the reason that it is necessary for the extension workers to draw ideas and experiences available in the field of adult education for educating a certain class of adults by taking into account their motivation, needs, ways of communication and various other factors that condition adult learning.

Some Major Assumptions

The concept of educational extension as briefly indicated earlier and the emerging programmes and practices are based on certain fundamental assumptions. Most of the assumptions have already been stated either implicitly or explicitly while discussing the concept in preceding paragraphs. They are now brought together and enumerated as follows:

1. Education of the educator continues all throughout his professional career in a planned manner.
2. Educational extension will contribute to the qualitative improvement of education.
3. The pre-service training provided to the teacher is not adequate for the rest of his professional career for discharging his duties effectively.
4. There are many areas of human endeavour in which changes occur and these changes demand corresponding changes in education and therefore in the educator. The frontiers of human knowledge in various fields expand rapidly. Changes in the basic

concepts and theories in allied disciplines such as psychology and sociology necessitate corresponding changes in educational theory and practice. New pedagogical techniques and skills are also innovated. Social changes are also fairly rapid in the form of acceptance of new social values, development of new social needs and demands, and so forth. They have educational implications. In a developing country like India, even the school population and school clientele keep continually changing. All these new developments, innovations and changes necessitate corresponding changes to be brought about in educational objectives, curricula, textual content, teaching methods, instructional materials, and so forth without delay so that education remains dynamic, up-to-date and responsive. Educational extension is capable of preparing in-service teachers and other educators in the best possible manner for bringing these required changes in education.

5. In order to bring about changes in education corresponding to the changes in other related areas, it is necessary to improve the competence of the teacher in terms of his knowledge, skills, interest, and attitudes as an essential means of improving education.

6. In addition to mass scale changes to be brought about in education from time to time, individual teachers, small groups of teachers, individual schools or small groups of schools may feel the need of bringing about certain changes and aspire to solve certain specific academic problems; educational extension is capable of helping these individuals or groups in meeting their academic needs and in solving their academic problems.

Some Basic Principles

As educational extension is conceived as a stage of professional education for teachers and other educators, it is necessary to identify its basic principles which should prove helpful in developing its plans, programmes and techniques. Summarized below are some of the basic principles which again have been stated earlier in one way or another while developing the concept of educational extension.

1. There are many differences between initial education of teachers and educational extension. The level of motivation, maturity and prior education, needs for continuing education, time factor, educators' work-load, age, and various other factors should be taken into account while developing plans and programmes for educational extension.

2. Educational extension is one of the categories of adult education. Therefore, the laws of adult learning techniques, of motivating them to learn and change their practices, and such other aspects of adult education should be carefully considered in order to make educational extension successful.

3. The basic objective of educational extension is to improve professional competence of the educator in order to improve education. Based on this over-all objective, specific objectives of extension programmes should be worked out. These specific objectives should serve as guidelight in developing extension programmes and activities, techniques of conducting the programmes, educational materials and evaluation procedures to appraise the effectiveness of extension work. Such objective-centred programmes are likely to produce reinforcing influence on the

recipients of educational extension and a cohesive impact on their educational practices.

4. While formulating specific objectives of educational extension, the needs of the clientele, needs of the state and the nation as a whole, availability of resources and such other factors should be taken into account so as to make the goals attainable.

5. Educational extension is that stage of teacher education which has to bear a tremendous responsibility of keeping education dynamic, up-to-date and responsive. It is therefore essential that educational extension itself employs a creative and innovative approach to all its aspects, namely, formulation of objectives, development of extension programmes, use of a variety of educating techniques, establishment of professional contacts and sharing of experiences, responding to new developments in human knowledge and social life, and so forth. This dynamic character of educational extention has many implications for the development of the whole system of continuing teacher education, training of extension workers, locating appropriate personnel and agencies for providing educational extention, locating agencies and institutions for the purpose of co-ordination and collaboration, and lastly, administration of educational extension. In brief, educational extension can dynamize education, only when educational extension itself remains dynamic.

Implications and Application

The definition of educational extension, its characteristic features, its basic assumptions and principles all put together should help the extension worker in understanding and

internalizing this relatively new concept. Once the basic theoretical framework of educational extension is internalized the next step is to look back to the work done in this field so far, identify its strengths and weaknesses and develop future plans and programmes on a sounder footing. At every stage in the process of developing different aspects of educational extension the basic concept should serve as a guidestar. The concept should also be applied to determine the appropriateness and validity of every activity in this field. To summarize the concept of educational extension, underlying assumptions and basic principles should be used:

(a) to formulate over-all purposes and functions of educational extension;

(b) to identify appropriate agencies which should be in charge of educational extension;

(c) to identify other collaborative agencies and organizations;

(d) to identify the clientele of educational extension, namely teachers, educational administrators, etc.;

(e) to locate resources, needs, time available to all the personnel concerned, and other conditions and factors that influence educational extension;

(f) to work out specific objectives of educational extension keeping in view various antecedent factors;

(g) to develop appropriate and varied programmes to meet individual needs, institutional needs, and the needs of the state and the nation with regard to educational extension;

(h) to develop appropriate tools and techniques of educational evaluation in the light of the specific objectives, nature of the programmes, personnel and agencies involved in the programmes, and so on;

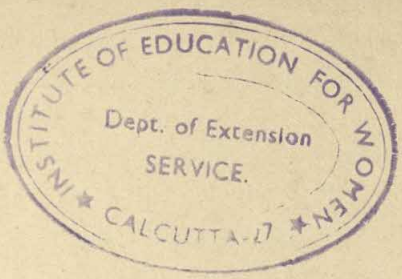
(i) to develop procedures of evaluating the effectiveness of all the programmes and activities in terms of their expected outcomes;

(j) to develop procedures and to set up machinery for comprehensive appraisal of educational extension from time to time;

(k) to set up an administrative and organizational machinery to keep extension workers and centres in touch with various areas of human endeavour which influence educational practices, and which suggest changes in educational programmes without allowing any delay.

Thus, it is necessary to appraise the existing set up of educational extension in the light of the theoretical framework and consider ways and means of modifying it to make it more effective, and more responsive to change.

This paper presents only a first draft of ideas in order to move towards a Theory of Educational Extension. The fellow extension workers and other educators are requested to respond to it and comment upon it. Special comments are solicited with regard to (a) the definition, and (b) characteristic features of educational extension. Special help is requested in the task of (a) distinguishing between underlying assumptions and basic principles more clearly; (b) classifying the statements given therein more appropriately; and (c) locating more statements of assumptions and principles to make the lists more comprehensive.



IV ROLE OF EXTENSION IN CHANGING SOCIETY

Indian society is undergoing a rapid change and the change is definitely a departure from non-technical culture. The first change that is noticed is in the transformation of the cognitive capital of the society. This cognitive capital is nothing else but the intellectual resources such as the means of communication and transport, the techniques of industry, the techniques of amusement, science, fine arts, prevailing ideals and popular beliefs, etc. The change in these resources brings a corresponding change in the social institutions. The school as one of such institutions cannot naturally remain aloof. These changes are also apparent in social mobility, standards of living, standards of social prestige, even noticeable in difference between those trained in scientific discipline and those not trained in it. This change will be greatly felt in the urbanised and industrialised area.

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Machine skills and mechanical common sense are more emphasised not only by industries but also by agriculture.

This type of change has its consequential effect on education. The first demand on education, therefore, is modernisation of traditional society. What does this mean? This has to be conceptualised in education at the appropriate educational level. The technological goals very frequently expressed are in tune with the changing society and its cognitive capital. These things in education mean increasing the height of a common man and improving the quality of the brighter one in order to produce an elite of the technological era.

It is, therefore, obvious that to hand on an unchanging or slowly changing body of knowledge and beliefs through any educational process would mean adding to the already existing educational lag. Education in the modern society is concerned more with the changing knowledge than with the conservation of knowledge. This brings a tremendous responsibility on educational institutions. The schools have to contribute now to the pursuit of knowledge, to providing educational opportunities to all, to providing educational responsibility to search out talents. Intelligensia is to be changed in quality, in composition and in academic heights through education.

Conceptualization of these goals in education will only mean a new school and a new curriculum. While reconstructing a new curriculum for a new social order, problems arising as a result of changes are to be taken into consideration — the problems in the form of explosion of knowledge, conservative teachers, traditionalism and authoritarianism, the fast changing complexion of the class structure in schools, different norms of behaviour, illiterate parents, backward children in the context of class stratum, job opportunities, etc. The questions of curriculum construction cannot be solved without paying attention to these problems. As a corollary

to these problems are the problems of professional training and adequate staffing in schools.

To meet with these challenges, responses have to be thought of, educationally, in terms of innovations, new pattern of teaching, new content, programme re-organisation, and new programmes for teacher education.

The responsibility of undertaking such a task surely rests with the teacher educators who have also to review their goals in the light of new perspective. The teacher educator is more concerned in a changing society with the development of human resources which would further mean development of knowledge, skills and capacities of all in the existing society. It is with this objective that the teacher educator has to encourage and professionally train his teachers. The process of development of human resources will unlock the door to modernisation. The teacher educator has to impart knowledge and professional skills in such a way that the teacher pupil will on his own decide which of the modes of the development of human resources he belongs to. The teacher educator has not only to help his teacher in this direction but also to assist in preparing his school exercises in tune with the changing society. The words of John W. Gardner, President of the Carnegie Corporation of New York will be enough to encourage the teacher educator to take up a new line of pedagogical thinking — "In a world that is rocking with change, we need more than anything else a high capacity for adjustment to changed circumstances, a capacity for innovation. The solutions we hit today will be outmoded tomorrow, only high ability and sound education equip a man for the continuous seeking of new solutions." These are the whisperings of the new society which the teachers' college has to listen to and modify accordingly its curriculum, its structure and structural relationship.

What does this discussion mean to the extension programmes! In a way the extension programmes have already introduced innovations in secondary education through hundreds of its workshops and seminars. They have given orientation to many teachers, have helped in trying out newer approaches in teaching, have tried to impart both content and method in areas such as science and social studies, have encouraged experimentation in schools, have endeavoured to make them scientific in their pedagogical thinking, have also contributed to teachers' realising their professional acumen. This is not eulogizing extension activities simply because we belong to it. These are facts and we very enthusiastically have provided the evidences, whenever asked for. A glance at the extension programmes will clearly bring before us distinct phases of the movement, viz., (i) spread of new ideas (ii) trying out new ideas and (iii) trying to retain the already tested ideas through experimental projects. The last phase now has come to be known as the *Total Improvement Programme.*

The Total Improvement Programme opens a new chapter in the history of the extension programmes. It is true that the extension centres have to play a vital role. The Total Improvement Programme is much concerned with the conceptualization and institutionalization of ideas. This is not a small task. This is a task that leads us into a great movement of curriculum designing. In this great movement the co-operation of all the agencies viz., (i) the teachers' college (ii) the administrators (iii) the teachers and (iv) the extension centre, have to be sought for. The extension centre in particular has to provide leadership in this movement. This leadership is to be made active in the total perspective of a changing society.

Under the movement of Total Improvement Programme the extension centre has to concentrate on vital areas such

as (i) the change (ii) the new dimensions of secondary education (iii) the newer curricular demands. It is of course impossible to carry on this movement by the efforts of one single co-ordinator.

The extension centre has to pick up the right type of teachers from among those who lead, who follow, who rest content with the status quo, and who resist all change.

Experimental programmes and other activities have stimulated excitement and interest. This itself serves as a great motivation. The ground is already prepared. Therefore, the right type of approach will surely accelerate the pace of work. Planned orientation programmes by the extension centre must bring to the notice of the headmasters and other administrators as to how different are their roles especially when the educational purposes are reconsidered, when pupils with different background enter their schools, when curriculum and methods of teaching are subject to experimentation, and when evaluation of the programmes pose new problems. How interesting it is, though difficult, for an administrator to work when his institution is involved in a process of change? This needs to be emphasised by the extension centre. Education in India has become experimental and developmental and without hesitation I should say that the credit goes to the extension programmes and their organisers. Now a crucial stage has come when the extension centre has to play a role of an agent that will lend a helping hand to schools that ultimately will find adequate expressions to the experimental and developmental character of modern education in India. If this opportunity is not exploited by the extension centre and its administrators it will be reduced to a mere cafeteria.

The new area of work has opened for the co-ordinator and his colleagues in his college a new avenue. The co-ordinator has now to base his judgments of the value of

every programme or technique, old or new, on the best available combination of research data and careful observation. This is a new field and the new field has to be furrowed by the extension centre. This will demand the involvement of the administrators, classroom teachers, and training college teachers.

This will also give a new design to the programme of the extension centre. The programme, therefore, to be evolved should pay attention to the following:

— activities that will directly involve teachers and administrators;

— discussions and workshops pertaining to the new problems of a changing society;

— encouragement and assistance to teachers who have new ideas and who want to try them out to improve their teaching and teaching materials;

— activities involving the professional organisations;

— activities giving leadership to headmasters in the new programmes;

— encouraging and assisting teachers individually and in groups to evaluate their endeavours to improve;

— helping teachers in placing their faith in educational objectives including the positive attitudes, citizenship skills and co-operative tendencies;

— helping teachers in organising PTA and enabling parents to see the new dimensions of education and the future of their wards in its context;

— approaching Education Departments to make the necessary administrative decisions to facilitate active participation by teachers and headmasters;

— helping the teachers and headmasters in building up a co-operative relationship with the extension centres,

district educational inspectors and even higher administrative authorities;

— utilizing different resources, be it persons or institutions, keeping in view the inter-disciplinary needs of education;

— searching leaders at every stage and entrusting them the responsibility;

— trying to organise a variety of activities mainly to keep the community informed of new happenings in the field of education;

— helping the school in knowing the community and showing the ways and means to contribute to the community.

The programmes involving these activities will give the extension centre an opportunity to play a constructive role in the educational reconstruction of new India.

In all these discussions if any one needs a special mention, it is the co-ordinator who has now become a sort of conventional Purohit to perform the DFS (Department of Field Services) rituals. He himself has to be alert since he is the pivot of all activities. He is expected to know the philosophy of change. He has to realise that in changing social complexion, ways that seemed effective yesterday may not appear so effective today. Therefore it is incumbant on his part to keep himself not only abreast of the recent trends but also to try out himself or encourage his colleagues in trying out the new ideas on research basis. The co-ordinator in the new phase of programmes does not remain a mere organiser or a traditional liason officer but he is a leader—a leader who has to kindle the flame of leadership among teachers and headmasters.

Equally important is the honorary director who has to play a role of an academician in the extension programmes.

His administrative control of yesterday has to undergo a change. He is an academician and his role in the extension programmes to be arranged now will be of considerable importance. The honorary director has to play a role of joint partnership in this great movement. Let no one remind him of the well known adage that "a modern man is obsolete in the sense that he has exalted change in everything but in himself."

V MOTIVATION FOR PROFESSIONAL GROWTH

1.00 Introduction

One of the most important programmes sponsored by the Government of India for the qualitative improvement of school education is the programme of in-service education of teachers. The teachers' colleges have been selected as the prime agencies for organising and implementing this programme. Extension services departments have been established in a large number of teachers' colleges during the last decade to initiate the programme of professional development of teachers in service. The Education Departments in the States have also set up specialised agencies to organise in-service education programmes for different categories of educational personnel. The in-service education personnel have faced the problem of the real and significant transfer of what is being discussed during the in-service training programme to

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what actually goes on in the classrooms. The problem before in-service workers is the problem of stimulating self-generated and self-sustaining activities amongst teachers towards professional growth.

2.00 Problems of Motivating Teacher Growth

The experience of extension workers in the field of teacher education has thrown open some key questions requiring clear solutions. What causes some teachers to grow on the job more than others? What incentives should be provided to teachers which could accelerate professional growth? What can a headmaster in a school or the extension worker do to stimulate in-service growth of teachers? Do teachers feel that participating in extension programmes help them in solving their problems? Do they feel that participation in extension activities provides the needed incentive?

Teacher educators, in-service workers and administrators are faced with problems such as above in starting in-service programmes. They come across teachers who are willing to work towards continuous growth. They also meet teachers who are unconcerned and seem unwilling to grow. How can professional growth be stimulated? What are the problems in leading teachers to growth? How can an extension worker stimulate teachers in in-service education? How can a headmaster begin a planned programme of in-service education in his school? How can the ongoing programmes be improved? What incentives have proved promising by school administrators? What incentives are least successful? What, according to teachers, are good incentives?....

Stimulating the in-service growth of teachers is an important phase of the programme or activities of extension services departments. Tackling these problems can contribute to making the in-service programme more effective.

The present study is of an exploratory nature which seeks to obtain answers to the above questions.

3.00 Sources of Data

The major tools of collecting the data for the present study were two questionnaires. The questionnaires were devised in consultation with a few extension workers and headmasters of secondary schools. It was felt that only a few open-end questions may be put in both the questionnaires. One questionnaire was addressed to headmasters of schools and the second to the teachers who had participated in in-service training activities organised either by the headmasters or the extension personnel. Both the questionnaires contained more or less identical questions. The additional sources of data were the reports of various extension services departments and face to face interviews with teachers, headmasters and teacher educators including extension workers.

The sample of headmasters and teachers from whom the information was obtained, was selected from a list of schools involved in the programme of Intensive School Improvement of the extension services departments. The questionnaires were sent to 150 headmasters and 750 teachers. 106 headmasters and 480 teachers returned the questionnaires.

Forty three teachers and sixteen headmasters were interviewed to get further information on the issue. A large number of teacher educators involved in the in-service education programmes were also interviewed.

The observations made and the conclusions drawn are based upon the answers given in the questionnaires or answers secured through the interviews.

4.00 Definitions of Terms

It is necessary to define the terms used in this study.

4.01 EXTENSION WORKERS: All those personnel who are attached to extension services departments of teachers' colleges and State Institutes of Education, and who are mainly charged with the responsibility of organising activities for professional growth of the teachers have been styled as extension workers. The terms 'extension workers' and 'in-service workers' have been considered as synonymous in this study. The principals/headmasters of schools are also responsible for promoting professional growth of teachers. The words principal and headmaster are synonymous for the purposes of this study and are used interchangeably. They, along with district inspectors of schools have been included in the term 'administrators'.

4.02 IN-SERVICE EDUCATION: In-service education includes all activities engaged in by professional personnel during their service designed to promote their own professional growth. All such activities which will bring new insight, growth, understanding, cooperative practices, improvement of instructions and development of curriculum material are included in in-service education.

4.03 INCENTIVES: Anything that contributes toward making teachers more concerned and willing to grow, to move toward higher professional standards and to get involved in activities of professional growth is included in the term 'incentive'. Incentives may be intrinsic or extrinsic. They might be in the form of conditions and procedures.

4.04 MOTIVES: Motives are taken to be those inner urges or natural feelings on the part of each teacher which cause him to be likely to follow a certain course of action. The motivation of teachers stems from one or more of the common human needs, viz. survival, feeling of security, belongingness, recognition and desire to do one's best.

5.00 Findings

5.01 ELEMENTS OF A GOOD PROGRAMME OF IN-SERVICE EDUCATION: A good programme of in-service education is of prime importance to stimulate a programme of school improvement. Such a programme of in-service training should primarily be organised within the school and be need-oriented for the individual teacher. Teachers are of the opinion that there are certain activities and practices which contribute largely to professional growth.

The following elements are considered important by teachers for a good programme of in-service education:

1. The administrators should take more interest in the in-service education programmes.
2. There should be continuity in the programme.
3. Teachers should feel that it is their programme. In other words, there should be thorough involvement of teachers in planning and deciding the programme.
4. Research and experimentation should be encouraged by the administrators. Experimentation should involve the administrators and other staff. In other words, experimentation should not be the concern of only 'a' teacher but of the subject teachers group and the headmaster also.
5. Sufficient facilities should be given to carry on group activities.
6. The headmaster should be openminded and should give support to innovations being tried out by teachers.
7. The headmaster should listen to the teachers' suggestions regarding improvement programme.
8. The headmaster should discuss the plan of follow up with teachers and articulate the group activities in the school with the programme of extension centres wherever needed.

5.02 MAJOR PROBLEMS FACED BY PRINCIPALS/HEADMASTERS IN INITIATING A PROGRAMME OF SCHOOL IMPROVEMENT: Principals of secondary schools have found a variety of problems which are more related to the managements of the institutions and the policy of the departments of education. However, to set up a successful programme of in-service education for school improvement, it is important to understand the problems faced by them. It is also important for the principals to understand their problems in proper perspective. The major problem the principals face is the problem of unmotivated and unwilling teachers. Here is a problem of personalities of headmasters and teachers. It is a problem of psychological approach and understanding in dealing with teachers. The problem is one of creating readiness for a programme amongst the teachers. The role of the principal as the initiator of a programme is very difficult to execute. A number of factors act as obstacles to bring about change. Factors arising from rigid administration, poor staff relations, unmotivated teachers—all work against the promotion of a new idea or a new practice. The major problems, which principals face when they attempt to initiate a programme of school improvement, have been listed below:

1. There is a feeling of satisfaction with the existing position among teachers and an unwillingness to change.
2. There is no support and encouragement from the management and at times clear instructions not to upset the status quo.
3. There is a terrific amount of routine administrative work and inadequate secreterial support.
4. The robust sense of service security acts as a major deterrent against improvement attempts.
5. Sufficient funds are not forthcoming. If funds are available the conditions attached to the use of funds are frustrating.

6. Teachers' emoluments are so low that many of them are quite apathetic to work.
7. The size of the school is small and no subject teachers groups are possible.
8. The necessary literature is not available for stimulating in-service growth of teachers.
9. The visits of the coordinator and other extension workers are few and far between. One co-ordinator cannot cope up with the work inspite of best efforts.
10. The headmasters have no clear understanding of how to initiate in-service education for school improvement. Consequently, they take administrative measures and not academic steps to initiate the programme.
11. There is frequent transfer of staff. When a programme has been understood and started by some teachers, they are transferred even in the midst of the school year.
12. The academic level of teachers is very low. Many teachers have to handle subjects for which they are not qualified.
13. District inspectors of schools do not take any interest in a programme of in-service education.

5.03 INITIATING AND MOTIVATING THE PROGRAMME: The principals have to contend with many factors which are important in initiating and motivating an in-service programme for their staff. The extension workers also face similar problem while stimulating principals to undertake organisation of school improvement programmes. The major obstacle is the inadequate preparation for such a programme on the part of the principal and the extension worker. The principal is overburdened with administrative work. He does not

ration out his time between his administrative and academic functions. In 1906, C. B. Guilbert wrote:

"The encroachment of petty duties is indictuous. The many little demands on the principal's time, calls for answering the telephone and reports—always reports—are so insistant that unless he is very watchful, much time will be given to them until he becomes that most ineffectual, that deadest of pedagogues, the office principal. Every superintendent knows him. He is always there, on his chair, at his desk, seldom can he be surprised away from his customary spot and if he is, he apologizes. Many a principal's office has become the tomb of creative educational leadership."

The principal must first know and understand the ways through which he can build up a successful educational leadership and establish successful democratic relationship between the teachers and the administration. The suggestions given by the principals for initiating and motivating a successful programme of in-service education are listed below:

Initiating the programme

1. The programme must be within the areas in which teachers are interested.
2. The scope of the programme should be such as would involve the experienced, senior, as well as inexperienced and junior teachers.
3. The problems should be identified by the teachers rather than assigned by the administrator.
4. The feelings of all teachers should be given full consideration while arriving at conclusions.
5. Development of a programme of improvement is a slow process. It is also a cooperative venture. Patience on the part of the headmaster is of utmost importance.

6. The decision about initiating the programme must be taken by the staff and not dominated by a single individual or a few senior teachers.
7. Teachers working in the programme should be continuously provided support and they should feel that improvement is being made in the area of their choice.

Motivating the programme

1. Before the programme is initiated, it is necessary that the existing status is evaluated by the teachers. Then periodically they should evaluate the new programme and find out for themselves the changes brought about.
2. Teachers who have grown in leadership may be given greater responsibility.
3. Some sort of recognition may be given to teachers who show successful development of programmes.
4. Periodic seminars be organised with the help of extension departments for teachers involved in the programme and also for teachers who may desire to take up programmes of improvement.
5. Invite inspecting officers and extension workers to visit the school and see the teachers in action.
6. Send frequent reports of the work done by teachers to extension centres and inspecting officers.
7. Have more and more staff meetings and let the teachers conduct these meetings.
8. Invite some leading guardians and explain to them the work of the teachers.
9. Invite teachers from other schools and let the teachers discuss their programme with them.

10. Supply new reading material to teachers and point out that portion which will be useful to the ongoing programme.

The above are some of the suggestions for initiating and motivating a programme of in-service training for school improvement. These suggestions have been made by a large majority of headmasters. Some of the suggestions are related to financial benefits to teachers showing appreciable professional growth. The small group of headmasters suggesting this opined that if merit rating of teachers is introduced and special increments are given to good teachers, the problem will become easy.

5·04 NEW TEACHERS AND PROGRAMME OF SCHOOL IMPROVEMENT: Most of the principals feel that new teachers should be given an orientation course in the beginning of the year. This is necessary in order that they may form a favourable attitude toward the institution and the work. They may also develop a sense of security and confidence when their problems are attended to and they are helped. Understanding of their problems will create a harmonious atmosphere of work for them, right from the beginning. Such an orientation programme may have a duration of three or four days. Some headmasters feel that unless the new teachers are not professionally trained, they cannot be involved in a programme of school improvement. In the light of their experience, the headmasters consider the following as important in orienting new teachers toward a programme of school improvement:

1. Before the beginning of the session, a special orientation seminar should be organised for the new teachers. In this seminar the new teachers should be acquainted with the school programme and practices. The headmaster should conduct this programme.
2. The new teachers should not feel that they are

considered and treated in a different way from the other teachers.

3. New teachers should be introduced to other teachers and involved in the organisation and planning of the programme right from the beginning.

4. It is very important that new teachers are informed about the books, material and equipment available in the school and the procedure for securing them.

5. The material about the various projects going on in the school should be supplied to the new teachers.

6. In programmes organised by extension centres, new teachers should be deputed on a priority basis.

7. Constructive assistance toward solving the classroom problems should be given to the new teachers.

8. The principal should arrange frequent consultative meetings with the new teachers concerning their problems.

5·05 INCENTIVES FOR PROFESSIONAL GROWTH: Incentives are key to any programme of professional growth. The principals do use one or the other type of incentives to varying degree of success. What is important is what the teachers believe to be the right type of incentive valuable for professional growth. It is but natural that teachers consider some kind of monetory gain as a good incentive. But apart from this, quite a number of other incentives used by the principals have been found valuable by teachers. Teachers feel that incentives are quite helpful in increasing the morale which in turn acts as a great motivating force in the programme of in-service growth. The following incentives have been found quite valuable by the teachers:

1. The time-table is adjusted to teachers' needs.

2. The work-load is so adjusted that the teacher engages

in the programme of school improvement without additional heavy burden.

3. The principals behave with teachers in such a way that the teachers feel themselves as an integral part of the school.
4. Teachers' suggestions for modifying the programme receive due consideration.
5. There is continuous evaluation of the programme with the close involvement of teachers.
6. Teachers' requests for aids, books and other material are favourably considered.
7. Facilities are given to contact extension centres for consultations.
8. The educational literature from national institutions is made available to teachers.
9. Time-table is kept flexible to accommodate teachers' meetings.
10. Teachers are deputed to programmes of extension centres not on the basis of seniority but on the basis of needs of the teachers.
11. Principals frequently discuss the programme in staff meetings or subject teachers' meetings.
12. The progress report is circulated to school staff, district inspector of schools and extension centres.
13. The teacher is mentioned by name in the annual report while recognizing his work.
14. Teachers are encouraged to evaluate their own work and make suggestions for further improvement.
15. Teachers are encouraged to carry on experimentation.
16. The resources of the school and community are made available to teachers.

17. Groups of teachers are involved in certain administrative matters like the selection of library books, classroom arrangement, etc.

18. Principals support the teachers even when the programme is not developing according to laid-out plan.

5·06 INCENTIVES WHICH THE PRINCIPALS USE: The needs of in-service education programme differ from school to school and within the same school they differ from teacher to teacher. The school improvement programmes which form a part of the in-service programme are at different levels in different schools. In some schools, the programme suffered a set-back with the transfer of some teachers whereas in other schools, the programme withered away with the transfer of the headmaster. Different principals have used different incentives in their schools but the principals have listed quite a number of incentives which they considered as usable in in-service growth programmes though they might not be using the same in the particular schools where they are working at the time of this study. The following have been mentioned without regard to the frequency of listing or to the importance rank:

1. The use of evaluative criteria has been helpful to provide a good incentive to teachers as they can perceive the change brought about more clearly.
2. Parents and teachers are brought together to discuss the improvement programme.
3. Informal meetings are organised with teachers frequently.
4. A steering committee from the staff is formed to guide the improvement programme and in-service education programme.
5. Interschool teacher groups are encouraged to implement a programme of improvement.

6. Teachers are given recognition by a written expression of appreciation.
7. More facilities are given to teacher to experiment with new ideas.
8. Wide publicity is given to teachers' work.
9. Timely help and guidance are provided to teachers when required.
10. Whenever conditions permit, work-load of teachers undertaking improvement programme is reduced.
11. Entry of good remarks in the service book is very encouraging to teachers.
12. A letter of recommendation to the education department in favour of the teacher is sent.
13. The teachers are entrusted with more responsible work like assisting a new teacher in a programme of in-service education.
14. Whenever possible, the teachers are deputed to professional conferences.
15. Through office bulletins, attention of other teachers, extension centre and inspector of schools is called to the good work done by the teacher.
16. An attitude, that teaching as a profession is to be highly respected has been developed.
17. Teachers are given freedom to modify the curriculum within certain limits.
18. A teacher exchange programme is developed with other schools through the extension department.
19. Periodic visits of important persons of the community are arranged.
20. Teachers are deputed to summer institutes.
21. Regularly planned staff meetings are arranged to hear the teachers' reports.

22. Material like, 'New Trends in School Practices' is supplied to teachers.

5·07 INCENTIVES WHICH TEACHERS FIND TO BE EFFECTIVE: It is one thing to know what incentives the principals consider to be effective. What is important is to know the impact of the practice upon the teachers. No one is better qualified to vouchsafe the validity of a practice in motivating the teacher than the teachers who grow through the programme. Teachers believe that the following incentives can be successful for promoting the in-service growth:

1. The in-service growth programme is planned jointly by teachers and principals.
2. Teacher groups are formed to develop, to follow up and to evaluate the programme.
3. Adequate educational literature is supplied to teachers.
4. Principals cooperate readily in obtaining teaching aids and procuring other facilities.
5. The administration is democratic with thorough involvement of teachers.
6. The supervision is not rigid and strict but sympathetic and humane.
7. The principals are easily approachable for guidance in the programme.
8. Staff seminars are held frequently at least twice a month.
9. Specialists from outside are invited for consultation.
10. There should be freedom of expression and freedom to modify or even reject a programme.
11. Teachers are allowed to attend programmes of extension departments.

12. Teachers are allowed to define their own problems and to experiment for finding out solutions.
13. Teachers from other schools who have undertaken a similar programme are brought together at least twice a year.
14. Merit certificates are given to teachers showing professional growth.
15. Parents-teachers committees discuss school improvement programme.
16. Teachers are entrusted with the task of evaluating their own pupils.
17. Public and official recognition of the teachers' work provides real incentive.
18. Staff meetings are scheduled and held according to a preplanned programme.
19. Continuous in-service training programme is organised in the school.
20. The extra burden is compensated by less of clerical work.
21. The principal evinces real interest in the teachers' work.
22. Typing and duplicating facilities are provided.
23. Group work is encouraged.
24. Free literature published by NCERT or other agencies is given to the teacher showing outstanding professional growth.
25. Travel facilities for attending educational conferences are provided once in three years.
26. The extension centre brings together the teachers involved in school improvement programmes twice a year.

6.00 Comparing the Teachers' and Principals' View-points

A close perusal of the answers given by teachers and principals reveals that most of the incentives suggested by both are more or less identical. Both feel that periodical staff meetings, recognition of good work done by teachers, organising in-service growth activities for teachers, greater involvement of teachers in administration, freedom and facilities to experiment, etc. provide effective incentives for a programme of school improvement. The teachers however feel that real democratic administrative practices are more important than other incentives. Few principals have mentioned this whereas more teachers have emphasised this and have also complained of the lack of such a democratic administration.

Some of the principals have pointed out the non-co-operative and interfering nature of the management as the main obstacle to giving greater freedom to teachers to experiment. Apart from this area of disagreement, both principals and teachers show agreement on many of the items which are important on establishing and stimulating a good programme of in-service growth.

7.00 Conclusions

In-service growth of teachers can be made self-motivated programme if proper incentives are provided to teachers. The incentives may take the form of monetory reward. But this is not all. A large spectrum of practices exists which can provide fairly adequate incentives.

The key to a successful programme of in-service education within a school is the active involvement and participation by the teachers in the programme. Involvement and participation help motivate teachers to develop. Tea-

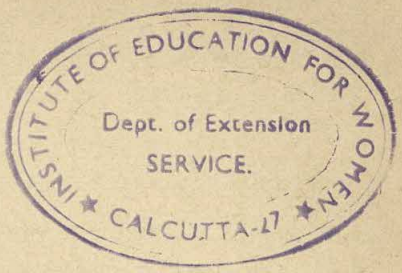
chers desire an opportunity to share in the identification and localisation of problems and planning of the programme.

Periodic review of the programme, evaluation of the programme by teacher groups and its modification if found necessary, provide the sustaining power to the programme.

Active interest by the principal and his concern about providing the assistance and support to the programme go a long way in raising the morale of the teachers and further add to the motivating force.

The responsibility for establishing the programme of in-service growth primarily rests with the school principal. It is necessary that while establishing the programme the principal has succeeded in obtaining a working relationship with his staff based on an atmosphere of mutual confidence. The principal must practise democratic procedure in administration, be openminded about the programme and give full consideration to the teachers' view-points.

Teachers need to feel that professional growth is their responsibility and that the administration is beset with many hurdles. They should try to appreciate the principals' difficulties also. Only a cooperative effort on the part of principals and teachers can lay the foundation for a good in-service growth programme in a school.



SECTION TWO

METHODS AND TECHNIQUES

Extension education shares most of the procedures and practices followed at the pre-service level. However, it employees a wider variety of these, especially when confronted with the task of reeducation. Usual techniques give way while attempting to replace old habits by new ones. Changing of old and conservative attitudes is still a greater challenge to the extension worker. Moreover, the wide variety of procedures available for use even at the pre-service level, exist only in theory so far as India is concerned. The lecture method predominates, or rather monopolizes the whole field of education at all levels. Gradually the limitations and inadequacies of it are being recognized. This change has come mainly as an impact of extension education on the pre-service institutional training. The personnel in the field of professional education are so much accustomed to the routine of the lecture method, that when they are called upon to conduct in-service education programmes they resort to their habit of lecturing at the audience. It is only when somebody challenges a statement or raises a practical problem, they realise that they are in a different situation. The situation is improving day by day and the very same people have started using a variety of techniques suitable to the problems at hand. Techniques are always thought of with reference to the goals to be achieved. In this section of the book, the authors have discussed the techniques of in-service education by keeping in view definite goals.

Dr. Hilda Taba has discussed at length the need for continuing education of teachers and how various techniques of in-service education should be employed to attain certain goals. The author rightly emphasizes the continuous work with teachers repeatedly instead of an addition of a one more short term course at some stage as an all-time remedy to getting outdated. In his paper, Dr. Chaurasia discribes the Indian experiment in in-service education, the use of various techniques, and possibilities of using certain procedures for better results. Besides the better planned seminars, workshops and other usual practices, he emphasizes the proper use of publications, correspondence courses and self-improvement through staff-councils and study-circles. Dr. Stephen Corey further emphasizes the need for in-service education of teachers. His thesis is that everyone who wants to improve or progress has got to experiment systematically with one's own actions or decisions, be he a teacher, an administrator or an extension worker. His method of action research to solve one's own professional problems is a scientized common sense approach. It is not beyond the competence of an average teacher and also does not utilise much of the professional jargon of research technology which is beyond the reach of the school teacher. Dr. Buch has surveyed the unique features of some of the extension procedures adopted at different places in this country. They are unique in the sense that they are not followed by all the extension education agencies. Moreover, they are reported, because, they have been found successful.

The various techniques and procedures as discussed in the different papers in this section of the book give the extension worker, good basic understanding of the extension methodology. This understanding is, however, incomplete if it is not related to the various goals of extension work discussed in the section I.

VI TECHNIQUES OF IN-SERVICE TRAINING

HILDA TABA

The Setting of the Problem

Education is going through a truly revolutionary period. Research and experimentation is moving along on all dimensions of the educational process. A massive revision of curriculum is under way which is changing, not only the methods of organizing curriculum content, but also the very conceptions of content and the perspective toward what is important in it. While the area of social sciences has been a latecomer to the scene of experimentation and study, the revolution in this area will probably be even more pronounced than it has been in science and mathematics.

Studies of learning have shifted from the laboratory to the classroom and are producing a new and a more dynamic view of learning. Of special significance are the investigations of

the cognitive aspects of learning such as concept formation, formulation of generalizations, development of methods of inquiry, and evaluation of evidence. Studies of teaching have moved away from the application of a global and a vague concept of "good" teacher and "good" teaching and are concentrating on an objective description of classroom teaching behavior.[1] Such studies should eventually produce both an articulated theory of instruction and a concept of teaching which should make it possible to plan instructional processes scientifically and to direct these strategies to differentiated targets of learning, such as learning to think, acquiring attitudes and acquiring knowledge, and mastering skills.

These changes are profound enough to cause a serious gap between what teachers are now doing or can now do and what is expected of them. Furthermore, if one considers the continuing explosion of knowledge in all content fields and in the use of the media of educational technology, it seems that the need for retraining of teachers will be a continuous rather than a temporary phenomenon. If the "new" science of today will be the "old" science seven years from now, as Oppenheimer had suggested, a continued retraining of teachers will be necessary to keep instruction up to date. As Friedlander points out, we may be experiencing a permanent revolution and "endless waves of new thoughts on teaching."[2]

In such a period of rapid shift in all aspects of education, in-service training needs to play a much more important and different role than it has in the past. It needs to take on a double function: that of implementing changes

[1] N. L. Gage. *Handbook of Research on Teaching*, AERA-NEA. Chicago, Ill: Rand McNally and Company, 1963.

[2] Bernard Z. Friedlander. "A Psychologist's Second Thoughts on Concepts, Curiosity, and Discovery in Teaching and Learning." *Harvard Educational Review* 35:19; 1965.

generated elsewhere and of being an agent of change in particular school systems. In-service training is needed not only for teachers who entered the profession some time ago, but also for teachers who are entering the profession now, partly because the teacher education institutions are slow to respond to changes, and partly because the introduction of innovations on all fronts of education will cause a rapid obsolescence in teaching techniques, no matter how adequate the pre-service preparation.

These conditions suggest that in considering the techniques for in-service training one should fix one's eyes on the growing edge of the future rather than taking cues from the current practices of teaching and ideas about teaching: to shape the techniques and organizational patterns of in-service training, not in the image of teaching as it is today but as it might be tomorrow. To do this it would seem necessary to analyze both the current and the anticipated needs of in-service training and to begin to plan training programs that will put us in a position to supply these needs. Otherwise we will be oversupplied with teachers who are unable to meet the challenge of the changing conditions and to participate in programs that require a considerable change in skills, techniques, and educational perspective.

This is what this paper is attempting to do. This paper will attempt to deal with three questions: (1) What are the chief areas of concern to in-service education in the light of current movements in education? (2) What kind of in-service training is needed? (3) What are the implications of the answers to the above two questions for the method of planning and the tecniques of "in-service" training?

The Chief Areas of Concern

In the available space it is possible to discuss only a few most pertinent areas in which changes are radical enough

to create a serious gap between the orientation of teachers and what is expected of them. These gaps, it seems, should become the primary targets of in-service education if it is to serve as an agent of change. Actually, of course, in-service education must also encompass many types of improvement in instruction which go beyond the areas of concern discussed here.

NEW APPROACH TO THE CONTENT OF SOCIAL STUDIES. The teaching of the social sciences has been criticized: first, for being too descriptive; second, for dealing with highly obsolescent facts and concepts; and third, for burdening the memory with aggregates of information for which the students have no organizing conceptual schemes.

This approach has created the crisis of "coverage" and the dilemma of depth versus scope. Obviously there is more to be learned in any subject than can be learned in the span of the school years. Such knowledge, in addition, overburdens the memory and, hence, is easily forgotten. Therefore, its mastery produces small mileage in learning. Furthermore, descriptive factual knowledge is highly obsolescent. As the sciences expand and as the state of the world which such knowledge describes changes, its value vanishes. For example, knowledge about the political entities of Africa 20 years ago is completely in-applicable to the understanding of Africa today.

These considerations have led the curriculum innovators in science and mathematics, and, more recently, in social sciences, to a search for the more durable and fundamental kinds of knowledge. Most of these curriculum innovation projects are making an effort to redefine the role of knowledge in curriculum by searching out what is called the "structure" of these subjects or disciplines.

The dozen or so of the curriculum development projects in social sciences are pursuing this path also. Each of these

projects seems to recognize the import of the rapid obsolescence of descriptive knowledge. In each, therefore, there is an attempt to identify the elements of durable knowledge: the central concepts, the basic generalizations, and the methods of inquiry unique in such "disciplines" as history, geography, economics, and anthropology. Even though the impact of these projects cannot yet be fully assessed because little of the material that is being developed has been released, the projected plans promise marked changes in the conceptions of the knowledge in the social sciences.

While the term, "structure of disciplines," is one to conjure with these days, there is as yet no consensus regarding what these structures are or how to implement them in teaching. Some projects pursue the identification of the basic concepts and generalizations. Often the two terms are used interchangeably. Others are creating systems of generalizations and concepts and producing samplings of relevant raw data to be used to allow students to engage in interpretation and in discovery of general principles. Still others identify the idea of the structure of subjects with the method of inquiry employed in each of the disciplines.[3]

For purposes of teacher training, curriculum development, and instruction, a simplified concept of the structure of disciplines can be stated in terms of differentiating three levels of knowledge, each of which serves a different function in instruction and learning: (1) the basic concepts; (2) the basic generalizations; and (3) specific samples of areas of content and specific descriptive information concerning these areas.[4]

The basic concepts are essentially high level abstractions expressed in verbal cues and labels (e.g., interdependence,

[3] "Report on Project Social Studies." *Social Education* 19:206 ff; April 1965.

[4] Hilda Taba. *Curriculum Development: Theory and Practice.* New York: Harcourt, Brace and World, 1961. Chapter 12, "The Nature of Knowledge."

cultural change, causality). Such concepts encompass and organize large amounts of specific information and present models of relationships. For example, the concept of causality expresses a model of an idea of a certain type of relationship. It does not represent a continuity of events.

These basic concepts are also hierarchical in the sense that they represent ascending levels of abstraction, complexity, and generality.

Figure 1 illustrates such a hierarchy of three concepts — cultural change, interdependence, and cooperation — as implemented in one elementary school curriculum.[5] Being hierarchical, the concepts can be learned only through graduated concrete instances, each of which reveals a different aspect of the concept. Consequently, on each grade level return engagements can be made to the same basic concept on a different level of depth, abstraction, and sophistication. In this sense the basic concepts can thread through the curriculum on several grade levels. Some concepts may be significant and abstract enough to merit return engagements throughout the entire span of the elementary and secondary program. This hierarchical nature of concepts suggests the need for a cumulative and longitudinal development. But the possibility is also opened that different individuals in the same grade can be on a different rung in the conceptual ladder while being engaged in the same content.

The second level of knowledge consists of significant generalizations and principles of a discipline. These generalizations are the durable knowledge. As such they represent the "fundamentals" in any discipline and, therefore, also the basic knowledge to be learned by all students, even though in different depth and level of sophistication.

[5] *Contra Costa Social Studies Units, Grades* 1-6. Pleasant Hill, Calif.: Contra Costa County Schools.

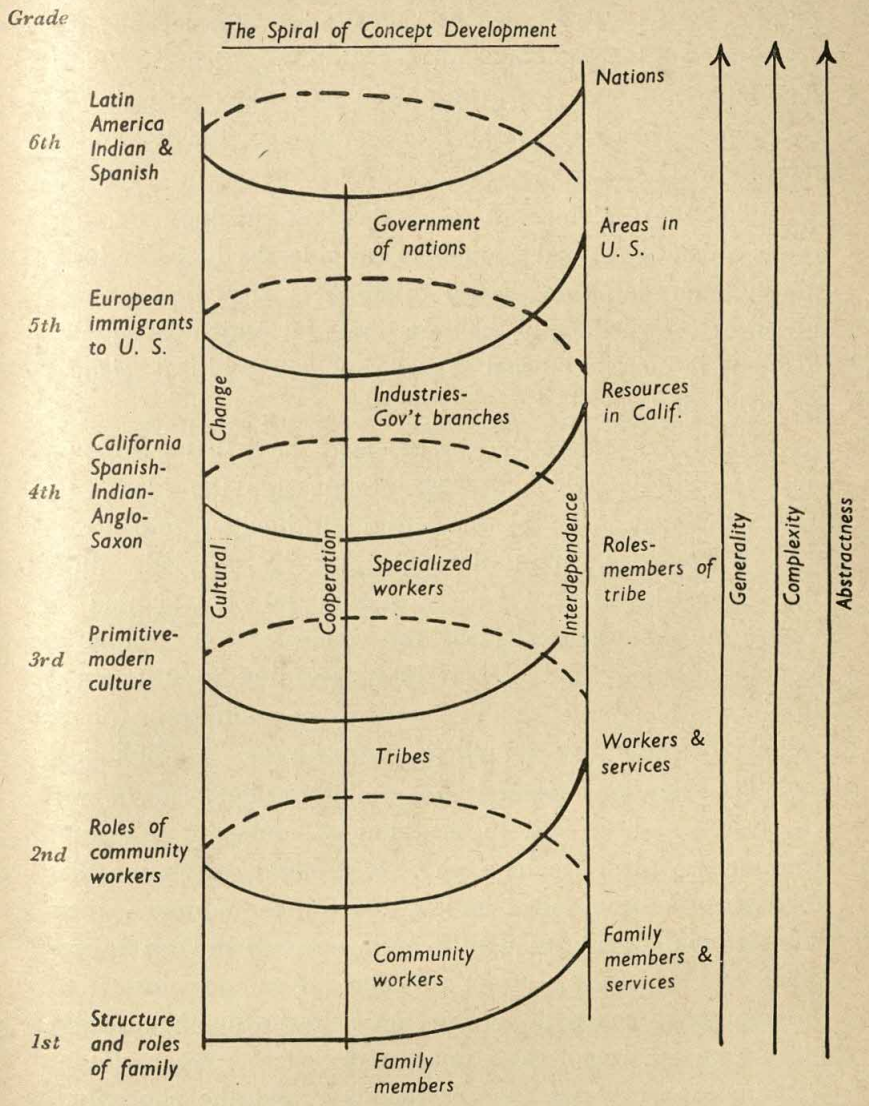

Grade
The Spiral of Concept Development
6th
Latin America Indian & Spanish
5th
European immigrants to U. S.
4th
California Spanish-Indian-Anglo-Saxon
3rd
Primitive-modern culture
2nd
Roles of community workers
1st
Structure and roles of family
Government of nations
Industries-Gov't branches
Specialized workers
Tribes
Community workers
Family members
Change
Cooperation
Cultural
Interdependence
Nations
Areas in U. S.
Resources in Calif.
Roles-members of tribe
Workers & services
Family members & services
Generality
Complexity
Abstractness

FIGURE 1

These generalizations serve several functions. They, together with the basic concepts, give meaning to the descriptive facts.[6] They supply the criterion of relevance for selecting specific content and learning experiences. They determine how far to go into *what* and thus delimit the coverage. They govern the interpretation of the descriptive facts.

The most significant generalizations, furthermore, are those which are broad enough to provide the basis for integrating material from several disciplines. The new courses in history, for example, contain material which is equally at home in courses labeled as anthropology, political science, or geography.

Finally, there are the specific facts, factual descriptions, and case studies which are used to develop the ideas, to clarify them, to make the appropriate distinctions, to contrast and to compare. This material must be sampled rather than covered. Since a variety of material can be used to evolve the same general ideas and concepts, it is possible to sample different kinds of specifics according to differences in interests, abilities, and motivations patterns. (Some writers describe this sampling approach as "postholing.")

This view of content is unfamiliar to most teachers and involves a radical shift in the kind of content background they need. Most teachers who are brought up on the diet of descriptive knowledge find it difficult to approach their subjects analytically: to identify basic concepts and generalizations, and especially to sample specific information, instead of attempting to cover it. Furthermore, to do this they need a deeper knowledge of their subjects in order to see pertinent relationships between the specific data and the conceptual

[6] C. M. Turhayne. *The Myth and Metaphor.* New Haven, Conn.: Yale University Press, 1962. p. 66. Turhayne maintains that there are no "stubborn irreducible facts" lying outside a context or a conceptual model.

systems and generalizations that constitute the framework which binds whole towers of knowledge and the endless individual instances of reality.[7]

Such an approach to content also necessitates a different approach to selecting and organizing content and to using materials, especially the capacity to see relationships between the materials in one discipline to the facts and ideas in another one. Perhaps the most difficult task of in-service training lies in helping teachers to shed their deep-seated reverence for "covering" detailed facts, to develop a capacity to identify large ideas, and to use facts selectively and economically to develop or elucidate these ideas.

THE DEVELOPMENT OF THINKING. Another dimension of innovation in curriculum and instruction is the renewed emphasis on thinking or cognitive operations involved in processing specific information. This concept of cognitive operations is a necessary corollary to the concept of the nature of knowledge described above. A student cannot "penetrate the structure of the subject" without performing the intellectual operations which yield insight into the basic concepts or without himself generating inferences from the data before him. The materials of instruction become available to an individual mainly through performing certain cognitive operations upon them: organizing facts into conceptual systems, relating points to each other, making inferences and generalizing upon these relationships, using known facts and generalizations to hypothesize, predict, and to explain unfamiliar phenomena. Recent research indicates that these operations cannot be "given" to the students. Nor are they learned solely by contemplating upon or mastering the products of thought performed by others. These operations must be performed by the students. This is the concept of

[7] Bernard Z. Friedlander. *op. cit.*, p. 20.

active and productive learning. For this reason most of the recent projects in curriculum development emphasize the inductive discovery of concepts and generalizations, and the mastery of the techniques of problem solving as essential ingredients of learning and instruction.[8]

Underlying this emphasis on active thinking is the idea that thinking is learned and can be taught. This has not always been so. While thinking as an educational objective has had a venerable status, its implementation in instruction has been practically nil. Three assumptions have governed the ideas about thinking in the past and have led teachers to pay verbal homage to thinking as an objective without doing anything constructive about implementing it in instruction. One is that good organization of content automatically develops thinking. This assumption disregards the fact that thinking is a skill which can be learned—and that it is learned—not by passive exposure to the products of other people's thinking but by doing it. Another assumption widely accepted among teachers is that thinking can occur only after a substantial body of information has been acquired. This has produced programs which continue accumulating descriptive information "to think with later." This assumption has been primarily responsible for the overwhelming emphasis on "coverage" of descriptive knowledge in social studies. The third assumption has been that thinking is a product of intelligence: bright individuals do it spontaneously and others are incapable of it. This assumption eliminates

[8] J. S. Bruner. "The Art of Discovery." *Harvard Educational Review* 31:2, 21-32; 1961; J. S. Bruner. "Learning and Thinking." *Harvard Educational Review* 29:84-92; 1959; J. R. Suchman. "Inquiry Training: Building Skills for Autonomous Discovery." *Merrill-Palmer Quarterly* 7: 148-169; 1961; Hilda Taba. "Learning by Discovery: Psychological and Educational Rationale." *The Elementary School Journal* 63: 308-316; March 1963; Hilda Taba. "The Teaching of Thinking. "*Elementary English.* May 1965. p. 534-542; Hilda Taba, Samuel Levine, and Freeman F. Elzey. *Thinking in Elementary School Children.* San Francisco, Calif.: San Francisco State College, 1964. (USOE Project No. 1574.)

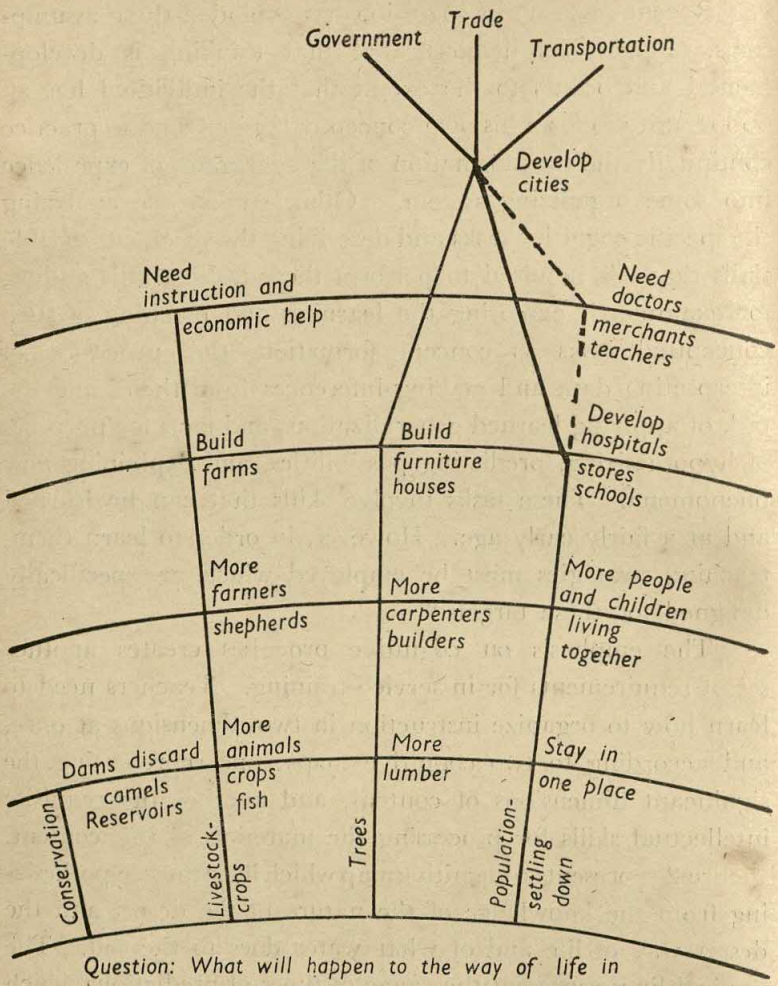
the necessity of doing anything specific in regard to teaching thinking.

Recent research in cognition has exploded these assumptions. Piaget has demonstrated that thinking is developmental and occurs to the extent that the individual has an opportunity to form his own conceptual systems and to practice continually the transformation of the aggregates of experience into some organizing system.[9] Other studies are analyzing the specific cognitive tasks and describing the specific teachable skills that are required to perform these tasks. This author, for example, is exploring the learning and teaching of such conceptual tasks as concept formation, the processes of interpreting data and making inferences from them, and the task of applying learned generalizations and facts for purposes of hypothesizing, predicting possibilities, and explaining new phenomena. These tasks involve skills that can be learned and at a fairly early age. However, in order to learn them, teaching strategies must be employed which are specifically designed for these targets.[10]

The emphasis on cognitive processes creates another set of requirements for in-service training. Teachers need to learn how to organize instruction in two dimensions at once, and according to two cognitive maps: one representing the significant dimensions of content, and another the requisite intellectual skills for processing the materials of this content. Figure 2 represents a cognitive map which illustrates hypothesizing from the knowledge of the nature of the desert and the desert way of life and of what water does to the soil. The vertical lines represent the range of types of predictions which must be judged according to their content validity. The horizontal lines represent the leaps of distance in hypothesizing

[9] J. Piaget. *The Psychology of Intelligence.* New York: Harcourt, Brace and World, 1950; J. McV. Hunt. *Intelligence and Experience.* New York: The Ronald Press, 1961.

[10] Hilda Taba, Samuel Levine, and Freeman F. Elzey, *op. cit.*



Question: What will happen to the way of life in the desert if sufficient water is available?

[*Vertical lines describe the divergent lines of predictions; horizontal lines the levels of "leaps" in these predictions.*]

FIGURE 2

from given conditions and the parameters of chains of causal links leading to these hypotheses. Naturally, to guide this process teachers need to acquire some understanding of the nature and the development of these cognitive, or thinking skills. This is not an easy task, since the useful literature on development of thought is of recent vintage and, hence, has not been part of their initial training.

ORGANIZING KNOWLEDGE FOR OPTIMAL LEARNING. Orthodoxies prevail also in the matter of what constitutes an optimal way of organizing content for learning. There is no doubt that the organization of the disciplines *qua* disciplines does not necessarily provide the best organization for learning. For example, the chronological sequence in teaching history may not be the best way of discovering the cause and effect relationship of historic events.

This is no place, however, to argue the merits of one type of organization of subjects against another. Rather the question is that of the capacity of teachers to reorganize knowledge in many different ways to serve at once the requirements of the logic of the subject and to accommodate the objective of thinking and the variations in the capacities of a heterogeneous student population. Current curriculum projects are experimenting with a variety of organizational patterns. Some pursue the evolutionary sequence in the development of cultures. Others concentrate on certain concepts at certain grade levels. Still others attempt to organize instruction around certain social, political, and economic institutions to be studied comparatively across cultures. Still others use a topical organization, employing topics such as production of goods and services in units on economics."[11]

[11] "A Social Studies Program," Educational Services, Inc., 44-A Brattle Street, Cambridge, Massachusetts. 1965; "A Sequential Curriculum in Anthropology for Grades 1-7." University of Georgia, Marion J. Rice and Wilfred C. Bailey, co-Directors; "A Sequential Junior-Senior High School Curriculum." University of Illinois, Ella Leppert, director.

However, from the meager descriptions available at the present time it is impossible to tell how adequately these patterns provide for the developmental sequences in acquiring the necessary cognitive skills.

The overarching problem is that of developing an organization which is logically defensible and at the same time optimal for learning—a modern answer to the controversy over the psychological and logical organization of content. The analytical approach to the structure of disciplines permits the construction of alternative schemes of organization which combine both. Each subject or discipline can be and has been organized equally logically in several different ways. One can, for example, study historic events either by following the "woof" of the events that occur at the same time and are related to each other, or the "warp," a chain of events through time. One can study Latin America either by countries or by dimensions of what one needs to know about any culture or country, as shown in Figure 3. Either way of organizing is equally logical. Which pattern is chosen depends on which set of relationships and of concepts is more difficult to understand and, therefore, needs the support of organization, and which can be learned "incidentally." The structural approach to learning also forces the question regarding the degree to which the organization facilitates the development of general concepts and ideas, such as the role of resources in economic development, the relationship of standards of living to the technological developments, etc. In other words the decision regarding what type of organization to adopt depends in part on one's view of the structure of subjects and in part on the set of objectives one wishes to attain.

The implications of this emphasis on cognitive processes for in-service education are tremendous. This approach

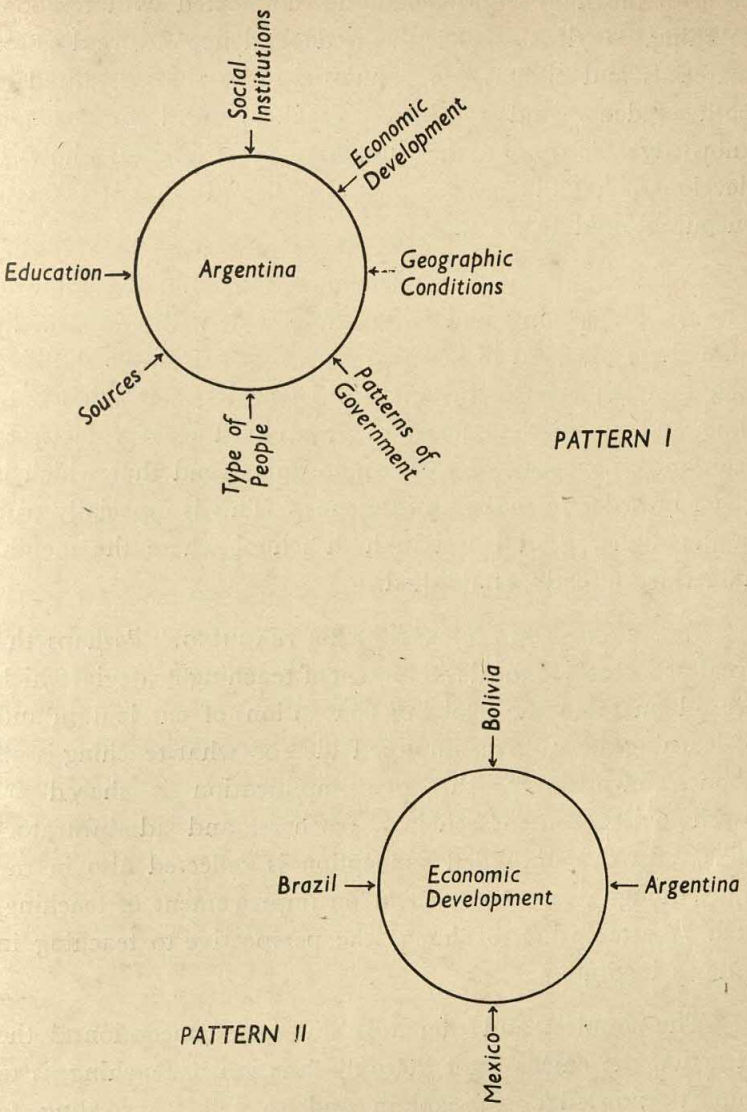


FIGURE 3

PATTERNS OF CONTENT ORGANIZATION

reverses the habits and techniques connected with textbook teaching. It does away with the dependence on pre-digested materials and creates a revolution in the skills required of both students and teachers. Teachers need to become knowledgeable about the processes of thinking: how it develops, what the basic processes are, and what it takes to encourage and to nurture it.

Needless to say, the development of thinking requires patterns of learning and of teaching which differ markedly from those involved in learning facts. For example thinking is not in the class of instantaneous learning. It takes both time and practice to learn to group and classify facts, to reorganize concepts, or to learn to go beyond that which is given in order to make an inference. This is especially true in the higher grades and in high school where the mental habits are already established.

ENLARGING THE CONCEPTIONS OF TEACHING. Perhaps the greatest obstacle to the development of teaching strategies which are adequate to the evolving conceptions of curriculum and of learning is an oversimplified idea of what teaching is all about. Surprisingly, this oversimplification is shared by psychologists, content scholars, teachers, and administrators alike. An oversimplified conception is reflected also in the time, thought, and effort spent on improvement of teaching, such as attempting to change the perspective to teaching in a day's institute.

The simplest and the most stubborn conception is the idea that the chief, if not the only function of teaching, is to impart knowledge, to explain and to tell. According to this view, improvement of teaching is brought about largely by extending the teacher's knowledge of his subject. Some content specialists engaged in curriculum development go as far as to maintain that because teachers can acquire neither

the necessary content background nor a method of handling it, it is necessary to produce "fail-safe," practically self-teaching curriculum materials.

The consequences of implementing such a conception of teaching would be disastrous to the development of autonomy and flexibility of mind. Such a program would introduce a rigidity of content and of instruction which would do injustice to both the rapid change in educational needs and the widening heterogeneity in the talents and the backgrounds of the students. Fortunately most directors of the social science projects do not share this view, and intend to produce no self-teaching texts.

Another widely accepted, but equally inadequate, conception of teaching is that it is a product of mastering certain fixed "methods" such as a method of teaching history. Often the concept of method is narrowed down still further to *the* method, such as the chronological or the topical method of teaching history. This conception of teaching implies that teaching strategy is determined by the nature of the content area, outside or apart from the generic aspects of learning. This assumption is the foundation stone for the prevailing methods courses in teacher training.

The third is the assumption that teaching is an art, which some persons master intuitively. This assumption denies the possibility that teaching is a technique and a skill which can be learned by a great range of individuals, provided we know how to analyze its elements and how to help teachers to acquire the necessary insights and skills.

These oversimplifications tend to persist in spite of a number of studies of teaching which, by describing a range of pedagogical functions of teaching acts, demonstrate the complexity of teaching and project a concept of teaching as

a scientifically planned strategy.[12] Teaching, of course, is one of the most complex activities, requiring a multitude of considerations even for its simplest decisions, such as what questions to ask. Figure 4 illustrates this complexity.

This diagram suggests that teaching involves the necessity of integrating a complex set of criteria and requirements. Teaching strategy is affected, first by the nature of the content one teaches and one's view of that content. History, for example, can be viewed as a chronological sequence of events, or as an intricate web of cause and effect relationships in human affairs in which causality is not identical with time sequence. To the extent that there are differences in the structures of the various disciplines, to that extent there must also be variations in the strategies of teaching them; if teaching, in addition, is to be addressed to objectives, then the nature of the structure of the behaviors implied in these objectives must be considered also. For example, attitudes cannot be "taught" in the same way one teaches geographic principles or the skill of reading maps. Only persons with the most unsophisticated view of teaching would presume to pursue the same strategy for teaching facts and thinking.

Differences among learners—in their abilities, cultural backgrounds, and maturity levels—dictate further modifications in teaching strategies, such as in ways of motivating, or

[12] A. Bellack *et al. The Language of the Classroom.* New York: Teachers College, Columbia University, 1963. (U.S.O.E. Cooperative Research Project No. 1497); N. A. Flanders. *Teacher Influence, Pupil Attitudes, and Achievement.* Minneapolis, Minn.: University of Minnesota, 1960; M. D. Woiman and H. J. Hermanowicz. "A Conceptual System for Prospective Teachers to Study Teaching Behavior." In H. M. Kliebard, "The Observation of Teaching: Some Recent Research." Working paper prepared for the Seminar on Teaching sponsored by ASCD and the NEA Center for the Study of Instruction, Spring, 1965; B.O. Smith *et al. A Study of the Logic of Teaching.* Urbana, Ill.: University of Illinois, 1962. (U.S.O.E. Cooperative Research Project No. 258); B.O. Smith *et al. A Tentative Report on the Strategies of Teaching.* (U.S.O.E. Cooperative Research Project, No. 1640); Hilda Taba, Samuel Levine, and Freeman F. Elzey, *op. cit.*

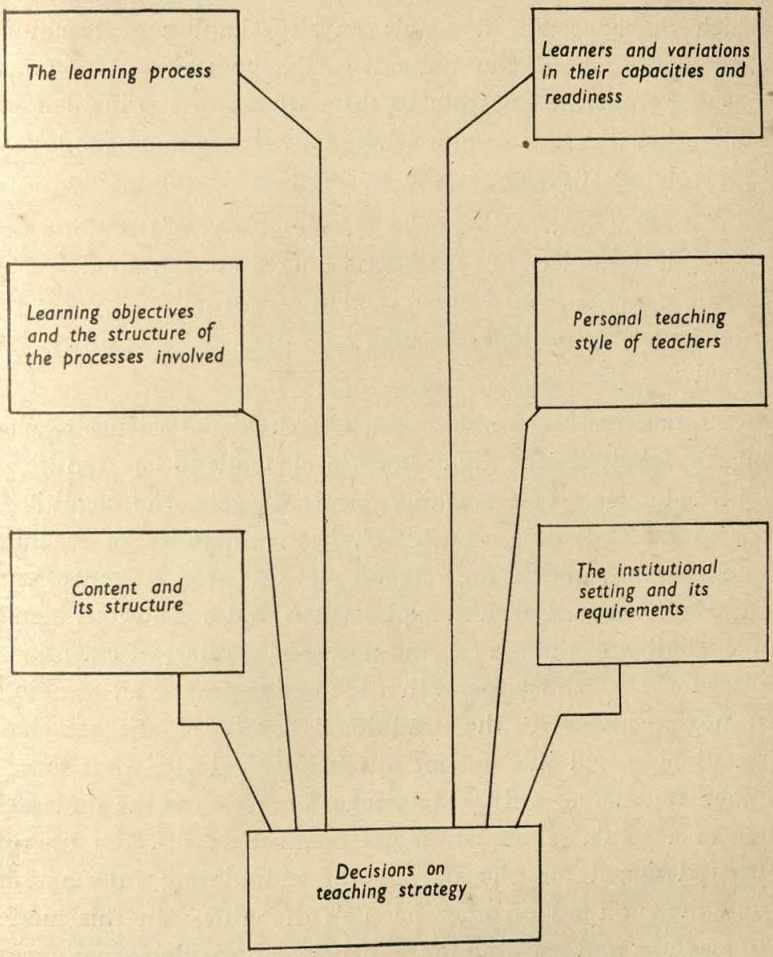


FIGURE 4

CONSIDERATIONS IN DECISIONS ON TEACHING STRATEGY

in the size of steps that can be projected in the sequences of learning tasks, especially the tasks which involve conceptualization and abstraction.

Over and above are the general principles of learning which make certain demands on the shaping of teaching strategies, such as the inductive sequences of autonomous learning from the concrete to the abstract, the principles of motivation which determine what methods are to be employed in involving students in the business of learning, etc.

In effect, instruction, or teaching is a way of transforming the logical models of the disciplines into the models for learning. When these two models are combined, certain intellectual operations become possible, which otherwise would not be feasible.

INDUCTIVE TEACHING. Much of the social science teaching, especially on the high school level, tends to be expository and deductive. This teaching fosters, largely, the cognitive-memory. According to Gallagher, the majority of teacher questions and student answers fall into this area. Convergent thinking, centered around explanations and conclusions along a single line of thought, form another large part of classroom discourse.[13] Bellack found that the major part of all teaching strategies involved the traditional cycle of the teacher questioning and the student answering, a device that sometimes is supplemented by the teacher's reaction to the students' answers.[14] These are strategies connected with the use of texts designed for the purpose of assimilating information and the products of other people's thoughts. In this mode of teaching and learning the sequencing of learning experiences is less important than the sequencing of content. Hence

[13] J. J. Gallagher. "Expressive Thought by Gifted Children in the Classroom." *Elementary English* 42: 559-568; May 1965.

[14] A Bellack *et. al.*, *op. cit.*, 1963.

minimal attention was devoted to planning cumulative learning experiences.

Like the new mathematics and the new science, the new developments in social sciences tend to abandon these techniques and to replace them with an emphasis on what is variously called inductive learning, discovery learning, and active inquiry. The idea is to encourage students to discover generalizations from the analysis of original unpredigested data, to build one concept and generalization upon another, to compare, contrast, and evaluate, and eventually to develop an understanding of the fundamental structure of the subject or subjects.

Inductive learning requires inductive teaching. Inductive teaching in turn, requires the projection of a sequence of learning experiences by thinking backwards: by determining what the students need to start with in order to end up with the expected concept, generalization, or intellectual skill. This projection of sequential learning experiences must also be cumulative in its impact, in the sense of starting with what students already know, understand, or can conceptualize and proceeding in an ascending hierarchy to the more complex and abstract ideas and the more demanding mental operations and inquiry techniques. These learning sequences need to be pursued within single class sessions and individual courses, as well as in the sequences of courses from grade to grade.

Planning such inductive sequences of learning involves rethinking of pacing also. When acquisition of information is the chief concern, pacing is a matter of determining how much content to cover and how rapidly to do it. When the acquisition of information is combined with conceptualizing, processing that information and deriving generalizations from it, it becomes necessary to determine what are the "bite-size"

steps by which students can master the cognitive skills that are involved. Decisions must also be made regarding how long to linger on each step in order to enable the students to master the skills which are prerequisite to the next step. In other words, elimination of unwarranted leaps in mental operations expected of students becomes an important criterion for the placement and pacing of content, as well as for the placement and pacing of the cognitive operations. Such a developmental sequence, on a microscopic scale, can be illustrated by an analytic chart of the steps involved in drawing inferences from a given set of data—a descriptive film, research reports from committees, or a reading of a pamphlet.

FIGURE 5. SCHEMA FOR INTERPRETATION OF DATA.

OVERT ACTIVITY	COVERT MENTAL OPERATION	ELICITING QUESTION
1. Identifying points	Differentiation	What did you note? see? find?
2. Explaining items of identified information	Relating points to each other. Determining cause and effect relationships.	Why did so-and-so happen?
3. Making inferences	Going beyond what is given. Finding implications, extrapolating.	What does this mean? What picture does it create in your mind? What would you conclude?

The chart in Figure 5 outlines (a) the sequence of steps in generic overt activities involved in making inferences from data; (b) the type of covert operations which underlie these overt activities; and (c) the sequence of questions to be asked to elicit these operations. The identification of specific points requires that students differentiate relevant items of data. This differentiation is the necessary prerequisite for the next step—explanation. Explaining involves establishing causal relationships between points in data. Students who are unable to differentiate points of relevant information

could not establish these relationships. The final step is that of generalizing and the making of inferences. This step requires going beyond what is given. It requires the ability to grasp implications and to make inferences.

Pacing, namely, the timing of the transformation of the assembling of information into explanation, and of explanation into inference making is part of the sequential development.

To guide this process teachers need two cognitive maps: one of the dimensions of content, and another of the processes or the skills involved in interpretation and of the sequence of mastering these steps.

These maps enable teachers to know beforehand what the relevant dimensions of the topic are and thus prevent study and discussion from becoming mired in an overwhelming amount of irrelevant detail, or, the opposite, from narrowing the scope and losing perspective by concentrating on a single line of thought.

As can be seen, in inductive teaching the art of asking questions, or the "seeking" function of teaching, assumes a great importance, particularly when the development of autonomous thinking is an objective. In fact, teacher questions control the entire trajectory of learning. Because the usual role of teachers is that of "giving" answers, teachers find it difficult to learn to formulate a "question strategy."

Teachers need to understand also that questions perform a variety of pedagogical functions. Openended questions may function to invite discovery and search, divergent answers, exploration and hypothesizing. Others limit thought, permit only one line of thought, or invite only recall. A question such as "What was the cause of the Civil War?" permits only one answer, while the question, "Why did the Incas not invent the wheel?" is an occasion for hypothesizing and speculating, for using knowledge in various ways, and employing a variety of levels of abstraction in doing it. A

question such as, "What are the important cities in the Balkans?" provides a poor focus in several respects, the chief one being the lack of a criterion for what is important. Does one look for large, ancient cities, cities that are capitals, or what? Because no criterion of importance is supplied, students have only two alternatives: guessing what the teacher wants, or trying to recollect what the book says about the topic, both cognitively not the most productive activities.

It is not easy to shift from an expository style of teaching to an heuristic one. Such a transition requires a comfortable competence in content background, a facility in organizing specific information on the spot, security in the role of guiding thought. It requires, further, a clearer understanding of the developmental sequences of mental operations than most teachers possess. It requires, finally a complete reversal of the accustomed role and of a number of habits, especially the habit of emphasizing the specific facts and of giving answers when asking questions is a better alternative. Learning the art of questioning disturbs both intellectual and emotional fixations and, therefore, takes both time and practice.

Finally, successful inductive teaching depends on diagnosis and evaluation at each step of the way. It is impossible to develop sequential and cumulative learning experiences without adequate feedback of what students know and understand, and what mental skills they master. More attention is needed to exploring the possibilities of diagnosing the effectiveness of teaching and learning through the more informal methods, especially the methods which serve at once as instructional devices and as means for securing evidence on student performance: analyzing the records of student products, such as what to read, write, or say in discussions; observations of classroom performance; and simple classroom exercises in classifying data, interpreting information, comparing and contrasting. The availability

of tape-recorders has made it possible to record classroom discussions. Provided teachers learn how to interpret them, these records contain dramatic revelations of the ways in which students think and feel as well as of the effectiveness of the teaching. The experience of the author with analyzing transcripts from 42 classrooms and with using them for training purposes has suggested that these records offer tremendous possibilities for diagnosis and evaluation of student performance, for feedback to teachers, and as a training device.

Implications for the Planning and Conduct of In-service Training

The observations made in the preceding pages suggest the need for a reassessment of in-service education: what it should consist of as well as how it might be organized and carried on. What about the ways and means for providing for these needs? If we consider in-service training, not only as a means for bringing up the rear guard in professional competence, but also as an agent of change pointed at least toward the near future, some revision of current practices may be in order.

The augmented provisions of Title III extend vastly the opportunities for better planning and servicing of in-service education. It would, therefore, be tragic if these new opportunities were employed in perpetuating the forms of in-service education devised under the financial stringencies of local school systems and of the state departments. This act also increases tremendously both the power and the responsibility of the state of education to influence the educational practices on all fronts. The problem is how to use this increased opportunity wisely, economically, and productively.

One might think of provisions for in-service education in two categories: resources and actual training.

Among the priority resources are ideas about content, instruction, learning, and the use of materials. If innovation is what we are seeking we should focus on making available ideas which have innovating power. We need to think of ways to reduce the time gap between new ideas generated in research and programmes of curriculum innovation and practice. In these days of voluminous activity in research on all fronts of the educational process and of rapid changes in the interpretation of the role of teaching, ways must be found to assemble and translate new ideas into educational practice more rapidly and more adequately than has been the case in the past. It is no longer prudent to wait the couple of decades that it is said to take for a new idea to percolate from the research laboratory into the specialized research journals, from there into the hands of interpreters and summarizers of research, and then into texts, and from the texts into teacher education and *then* into practice. Some ways are needed to short-cut this process.

Several possibilities suggest themselves. First is a service for assembling reports on pertinent research and curriculum innovations and making them available for the training groups, such as training institutes and local school systems with training programs. Having gone through such a process in connection with one NDEA institute, I have been impressed by the mountain of a job the assembling of such material is. But I have been equally impressed with the service rendered by the Office of Education in making available the recent report from Project English, which otherwise would have taken months for each separate institute to assemble. State departments might well undertake the establishing of such a service to school systems, workshops, and institutes.

Education, unfortunately, is an area which draws for its foundation from many other disciplines. This fact creates two additional obstacles to dissemination of useful ideas and data. One is the inaccessibility of the material itself, for many pertinent ideas appear in publications that are not available to school people. A still greater obstacle is the impenetrability of the special jargon employed in each discipline. Much of psychological research is couched in terms that only psychologists understand. Sociologists have their own dialect and methods of conceptualizing. This suggests the need for cultivating and using a special breed of professionals who can act as translators—persons with a wide enough background to make it possible for them to cull ideas and techniques from a wide range of sources and to translate them into a form that makes them accessible to practical educators. Bruner, for example, has served as such a translator for ideas on development of cognitive processes in *The Process of Education*.[15] More of this type of "binding" the educational problems and idea sources is needed in local situations. This suggests a need for personnel with competency that goes beyond that which we associate with the supervisory personnel.

The conditions seem ripe also for a closer face-to-face contact between scholars in subject areas, researchers, and school personnel in actual teaching situations. When individuals with different orientation work on the same problem, a very helpful cross-fertilization takes place. For example, when the subject specialists delineate the structure—the important ideas and concepts—of their disciplines they tend to produce an array of ideas which is overwhelmingly exhaustive and sometimes too far removed from the type of content with which the schools need to deal. Interaction

[15] J. S. Bruner. *The Process of Education*. Cambridge, Mass.: Harvard University Press, 1960.

with school personnel and curriculum specialists could help the content specialists to focus their analysis of the structure of their disciplines more selectively on topics which are pertinent to school curriculum and instructional tasks.

An example of similar cross-fertilization of research techniques and the practical educational situation is provided by one attempt of the author to translate a research scheme for coding the levels of thinking into a diagnostic scheme to be used by supervisors and interns. In the process of working with a group of interns, their college supervisors, and master teachers assembled by the Oregon State Department of Education, it was possible to strip the theoretical ideas on which the scheme was based of their special jargon and to eliminate the many intricacies required by research procedure. As a result of this interaction, a new tool emerged which provided the supervisors with a new method for diagnosing teaching and the interns with a method of self-evaluation, a tool which promised to become a continued source of learning for both.

Finally, in-service training might pay more attention to creating research orientation and a modicum of research skills in school personnel. Communication is never successful on a one-way track. Unless teachers and administrators learn to study their own programs, to examine the effect of innovations on their students, chances are that the imported ideas about research, teaching, or curriculum will not take root, or will be diluted, mechanized, or misused.

A valid argument could also be advanced for organizing training situations which combine the training in content background with training in educational processes and for staffing the training situations with teams of specialists, even if such a combination involves the risk of a less comprehensive preparation in either. Both educators and content specialists

agree that the content preparation of teachers has been in the past, and is now, both superficial and more narrowly specialized than their teaching assignments call for. Yet, with the changes in the available knowledge and the areas of emphasis, a thorough preparation which will endure seems almost a practical impossibility. One might bank, instead, on something less than thorough preparation but something that provides an adequate cognitive map for further study.

Furthermore, preparation in content background without a simultaneous effort at instructional implementation does not assure that the background will be used in instruction, except perhaps in transmitting to students this knowledge in practically the same package in which it was received by the teacher. A good example of this was a teacher who attempted to "put over" the idea of a "market system" to second graders after attending a workshop on economics.

On the other side of the coin, instructional techniques and skills acquired in isolation from the content areas in which they are to be used, and apart from the psychological rationale for using them, easily degenerate into gadgets. But, above all, we must remind ourselves that if the indigenous thinking in the social sciences is to be nurtured, the thought models and concepts offered by these disciplines must be subjected to the sifting process of the educational thinking and translating. Teachers' knowledge of subject matter alone is not a direct path to better teaching and learning. It is more likely to result in teaching which is not followed by learning. There is abundant evidence of faulty learning resulting from good subject matter because of inadequate or inappropriate teaching techniques.

If learnings of the sort described in the body of this paper are considered necessary, certain criteria need to be applied to planning in-service training ventures. Providing continuity is one such criterion. Too often workshops,

institutes, and consultant services tend to be "one-shot" affairs, offered without sufficient analysis of the problems and the needs they are to serve, and without adequate follow-up to capitalize on what is offered. Even workshops of longer duration tend to be discontinuous because they tend to consist of sessions on different subjects which do not build upon each other.

One aspect of continuity is the linkage of in-service training to ongoing programs of improvement and innovation. In-service training might be more effective if focused more sharply on studied needs and shaped with a view to mobilizing teachers and preparing for enacting the expected improvements.

This requirement makes it, in turn, necessary to consider the complexities of teaching. For example, one needs to take into account the fact that teachers learn new ways of thinking and new skills developmentally, as do children. The more radical the changes in teaching strategies that are expected, the greater the necessity that in-service training consider the sequential steps involved in producing such changes and provide both the time and the help in producing them. I am convinced that much of teacher resistance comes from the fact that exhortations to make changes are not always accompanied with the help to acquire the skills needed to make these changes with psychological comfort and without the threat and risk of making errors. For example, both time and practice are needed to learn new skills, such as conducting open-ended discussion or nalyzing the structure of subject matter. Research orientation cannot be acquired by listening to speeches about the needs for or methods of conducting research. It involves also an opportunity for the analysis of the problems to study and the skill for securing data and interpreting them. Reshaping curriculum and instruction is not a matter that can be accomplished in a six-week summer workshop of a series of monthly meetings

during the year. A more methodical way is required, plus time to change old habits and to develop new ideas and put them into practice.

Continuity involves three factors: (1) a proper sequence of learning; (2) a time-span required for orientation; and (3) a cycle of activities leading from the beginning analysis of the problems and needs to the implementation. For some purposes, such as curriculum development, the complete cycle may take as much as three years, especially if training and experimental action are combined. An illustrative sequence might run as follows. The first stage is that of diagnosing the needs and analyzing the difficulties in the existing program. The next stage is that of projecting objectives and identifying important ideas and concepts for the contemplated courses or programs. At this stage, training might focus on acquiring the necessary content background and in the methods of selecting and organizing content. Selection and organization of learning experiences might be the third step. During this period the study of the psychological principles of learning and of ideas about the differences in the capacities and motivation patterns of students is in order, as well as the practice of the necessary skills to implement these ideas in the classroom. Finally, the task of organizing the whole sequence of content and learning experiences must be undertaken. During this period the training should focus on such matters as the problems of scope and sequence and the dilemma posed by the necessity of providing both depth and scope within a limited time allowance.

This crude example illustrates several principles for organizing in-service training. First, there is no inherent merit in a particular form, such as a workshop as compared with short institutes or with a series of sessions distributed through the year. A task such as the one described above

would probably involve all forms, each at a different point in a sequence.

Second, one needs to differentiate the tasks which can be accomplished in large groups from those which require an intensive training in small groups. Generally, sequential training sessions of small groups over a long period of time are difficult to "sell". Administrators consider them uneconomical and even undemocratic. Usually the idea prevails that whatever is offered by way of training must be offered to all comers. Such an idea is caused partly by lack of differentiation of the tasks, partly by failure to relate in-service training to action programs. Partly it is related to the oversimplified conception of teaching and of improvement in teaching.

However, if one considers the long-term effects, one might discover that the intensive and prolonged training of smaller groups is about the most economical and prudent thing to do because it produces models that can be used by other teachers who would require less direct training. It is also practical if one applies the principle of the levels of involvement to decisions about the kind and the amount of training needed by different segments of the staff.

Such a sequence also illustrates the possibility of combining training in the theoretical background with an action program and practical application, thus eliminating the gap between theory and practice which has often prevented training from eventuating in improvement of practice.

A word might be added about the role of the consultants and the ways of using them. First, most training tasks of the type described here require a larger array of competencies than is usually regarded necessary or that can be provided by one person. The analysis of the roles and competencies in one action-research project in a county system

listed the following: Someone had to select the teachers and to encourage expression of concerns, someone had to diagnose these concerns and transform them into manageable and focused problems, someone needed to diagnose the perception levels of teachers in order to plan extensions of these perceptions within the limits of psychological possibilities, someone needed to act as research technician, devising, adapting, and borrowing research techniques as needed, someone needed to guide the process of translating data into action—hypotheses and classroom experiments, someone needed to maintain the psychological and logical continuity in the first halting steps when uncertainty and confusion tended to prevail.[16]

Second, different roles are needed at different points. For example, during the initial stages of problem identification the chief role of consultant is the diagnosis of perceptions, of the situation and of the human relations factors. This role requires, mainly, looking and listening. But when the work reaches the stage of devising diagnostic instruments or organizing content, persons who have specified competencies are needed to function in what amounts to a teaching role.

Finally, a consultant, being an outsider, needs to work in a manner necessary to cultivate self-sufficiency on the part of the local staff. Probably the best consultant is one who works toward elimination of his job by helping the local staff to acquire the skills to perform the tasks that he initially performs.

[16] Hilda Taba and Elizabeth Noel. *Action Research.* Washington, D.C.: ASCD, 1957.

VII TECHNIQUES AND PROCEDURES OF EXTENSION WORK

The extension services project in secondary education has been acclaimed to be one of the most successful schemes of the Second Five Year Plan. The extension services have injected new life in secondary schools and have made the training colleges dynamic by establishing various channels of free and frequent communication with the schools. Extension work has amply demonstrated what can be achieved by the mutual cooperation of enterprising schools and colleges. There is no doubt that the extension services have created new faith and enthusiasm in schools and colleges. They have also demonstrated that reconstruction and progress in the field of education are possible through carefully planned programmes. The scheme of extension services was started in 1955 with 25 teachers' colleges. Extension services are now functioning in nearly 150 teachers' colleges

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(both at the primary and the secondary level). It is now accepted that extension services are an integral part of teachers' colleges. The establishment of extension services centres in primary training institutions is an outstanding tribute to the impact of extension services in secondary training colleges.

One decade of in-service education represents a period of brisk activity in schools and colleges. This decade can best be described as the new era in teacher education. An important achievement of this new era is the new partnership of schools and colleges. This decade of in-service education also represents a struggle on the part of the training colleges to discover effective techniques and procedures of extension work. In 1955 some teacher educators were convinced that merely by adding a department of extension services to a teachers' college, extension services would automatically grow and spread out in the secondary schools. There were others who had an intuition that the establishment of extension services centres was only the beginning of a new era of struggle to promote the partnership of schools and colleges. It is perhaps true to say that the majority of the teacher educators were not aware of the full significance of in-service education in 1955. The proceedings of Srinagar conference indicate the fears and hopes of teacher educators who prepared the plan for extension services. The proceedings of Hyderabad conference further reflect these fears and hopes. A discerning reader would, however, find a note of optimism in the proceedings of both these All-India Conferences.

The first few years of extension work are full of remarkable enthusiasm in training colleges. During this first phase, the honorary directors and co-ordinators of extension services went to the secondary schools in their jurisdiction with great confidence to impress upon the schools that they knew all the answers. Each extension centre had to cater to about 300 secondary schools located in various districts. It was

assumed that the extension centre would work in these schools for their general and all-round improvement. There was quite an uproar in the State Departments of Education, especially in the inspectorate because some people thought that extension services were interfering with the work of inspecting officers. Lengthy circulars were promptly despatched from Delhi to State Departments of Education urging them to cooperate in the betterment of schools. Honorary directors and co-ordinators were requested to seek the co-operation of inspecting officers in extension work. A search for the techniques and procedures of extension work in the first half of the decade would perhaps result in a general agreement about the following:

1. Great emphasis was laid on group work and a number of group activities were organized by each extension centre. Seminars, workshops and conferences were organized with great enthusiasm. It may be difficult to point out any area of work of secondary schools which escaped this group activity. Seminars and workshops were held for teachers of various school subjects; regional and state seminars were organized for headmasters of secondary schools. Under the guidance of experts from Delhi, teacher educators and inspecting officers from the State these workshops and seminars discussed the entire range of problems in secondary education. There is no doubt that these group activities provided unlimited opportunities for the expression of pent-up feelings and views on the perennial theme of reform of secondary education. It must be emphasised that these group activities contributed a great deal by building confidence and providing a forum for free and frank discussion on educational issues. It is only in the second half of the decade that these group activities were seriously questioned and doubts were expressed about their impact on school practices.

2. All extension centres devoted considerable atten-

tion to printing the reports of all seminars and workshops. These reports were widely distributed in the hope that those who did not participate in the programmes may get a glimpse of what had transpired in the groups. The co-ordinators had to spend long hours in editing and proof-reading these manuscripts which contained glowing accounts of inaugural and valedictory functions by high dignitaries, thread-bare discussions of vital educational issues, and finally an impressive list of recommendations for educational reform. The extension centres earnestly believed that the gospel of in-service education would spread far and wide through these reports and publications and education would be reformed. Newsletters were also printed and distributed to inform the schools about the activities of the extension centres. Again, in the second half of the decade, serious doubts were expressed about the impact of these publications on school practices.

3. Each extension centre had a small library of American books and periodicals dealing with different aspects of secondary education. Some people in Delhi honestly believed that if these books were studied by teachers, they would become up-to-date in their knowledge of educational theory and practice. Consequently, educational reforms would follow. The moment it was discovered that the extension library was not adequate, State Governments were persuaded to provide financial assistance for the purchase of more books. Some books and periodicals kept flowing from U.S.A. to supplement the extension libraries. Extension co-ordinators took great pains to loan the books to readers in different corners of their jurisdiction. This item of work was assigned a high priority in the itinary of co-ordinators when they visited schools. There was no doubt that new knowledge was available in the books and periodicals and all that was required of teachers was a careful study of this material. In the first half of this decade of in-service education, nobody

doubted that the library services of extension centres offered the most concrete and valuable service to schools. It was believed that there could be no better procedure or technique of extension work.

4. Another valuable possession of the extension centre was collection of educational films, film-strips, maps, charts and globes. It also included film and film-strip projector, epidiascope, tape-recorder, record-player and one or two cameras for photography. This collection of audio visual material was available on demand to secondary schools. The co-ordinator took pains to see that this wealth of audio-visual material was properly circulated in schools. Some enterprising co-ordinators also joined well-known film libraries and procured documentary and educational films to supplement their own stock of films. These film shows attracted eager crowds of students and teachers. The co-ordinators piled up statistics of film-shows and number of people in various categories who witnessed them. It seemed all was well with extension work with new teaching aids. Pamphlets, bulletins and catalogues were printed and widely circulated. Finally, the awkward question was raised—what has been the impact of audio-visual services on school practices?

5. Various techniques and procedures were tried to involve the training college staff and the inspecting officers in extension work. Extension work seemed to catch roots wherever these two groups of people were involved in the various activities. Whenever honorary directors and co-ordinators assembled for assessing and planning extension work, they considered ways and means of enlisting the active support and cooperation of training college staff and inspecting officers. Advisory committees were constituted for each extension centre with members drawn from all sectors of education. These committees suggested and

approved the plan of work in the light of the needs and problems of secondary schools.

6. Considerable attention was given to problems of examination reform. Several projects were undertaken for this purpose and the extension centres invited teachers, teacher educators and experts of all kinds to tackle the problems. Workshops were organised for finding solutions for them. Evaluation officers from Delhi travelled widely to help in conducting scores of workshops for examination reform.

Those who are critical about the impact of extension work in the first half of the decade should remember that the major contribution of this period was to prepare the ground for a bright future for in-service education. By 1960-61 every one agreed that the gospel had been spread; the need had been firmly established; and the climate had been created for a new partnership of schools and colleges, teachers and teacher educators, pre-service and in-service workers, and school administrators were persuaded to accept that extension work had heralded a new era in education. It would be noticed that the seed which was planted in 1955 began to shoot up and really embarked upon its upward journey. The second half of the decade of in-service education is a story of intensive work directed towards consolidating the gains and demonstrating the impact on school practices. Searching questions were raised about the techniques and procedures of extension work. This resulted in new and better techniques as well as more effective use of earlier procedures of extension work. Mention may be made of the following:

1. Experimental Projects.
2. Science Clubs and Science Fairs.
3. Seminar Readings.
4. Annual Zonal/State Conferences.

5. Training of Co-ordinators.
6. Intensive Work with Schools.
7. Assessment of Extension Centres.
8. Workshops for Specific Objectives.
9. Wide Distribution of Useful Publications.
10. Intensive Work in Examination Reform.
11. Week-end and Evening Courses.

Better Techniques for In-service Education

As a result of one decade of work, in-service education has now become an integral part of teacher education. It is encouraging that in-service education is gaining strength in primary teacher training institutions also. Gujarat has demonstrated its faith in in-service education where many secondary schools are willingly contributing money for meeting partly the expenditure on in-service education by the extension centres. The Government of Mysore deserves our congratulations because in their newly started colleges of education at Jamkhandi and Davangere extension centre has been provided as an integral part of the college. While we have every reason to rejoice over this successful decade of in-service education, it is good to remember that we have to work with greater zeal and dedication in the years ahead. There is greater need now for continuous search for better techniques and procedures of in-service work. It is appropriate in this context to reiterate what Dr. V.K.R.V. Rao, once said. Defining the term *Technology of Education* Dr. Rao said, "By this I mean the adoption of education techniques that will lead to reduction in cost without impairment of efficiency. This may seem a contradiction in terms but the leading educationists will tell you how it is possible. The techniques proposed are:

(1) Expansion of existing institutions to their optimum viable size;

(2) Opening of part-time courses and evening institutions;

(3) Cooperative education in the sense of establishing a more positive link than hitherto between technical education and industry;

(4) Correspondence courses accompanied by personal contact programmes and summer institutes, especially for elementary and secondary schools;

(5) Extended use of audio-visual equipment."

The following examples would illustrate some effective techniques and procedures of extension work.

(1) WORKSHOPS AND SEMINARS: Some people have developed allergy for these terms and they are anxious to condemn these as ineffective procedures of in-service education. It is now fashionable to say Task Force, Study Group, Working Group, etc. By whatever name you choose to describe this group activity, its effectiveness depends upon such questions as—What preparation is needed before the meetings begin? How should the participants be selected? What is the optimum number of participants? What should be the duration? What should the working papers contain? What preparation is needed by participants before they come for the group meetings? What preparation is to be done by the consultants? What facilities in terms of books, films, journals, visits, etc., be provided during the workshop? What is the best time of the year for holding the workshops? Who should share the responsibility for follow-up work and how? In the absence of any systematic study of this problem in India it may be stated that there are some outstanding characteristics of workshops and seminars. These activities

can be effective instruments of in-service education in the measure that the following characteristics are emphasized:

(a) The essential features of workshops and seminars are intensive consideration of practical problems of classroom teaching, flexible and informal working conditions, active sharing by the participants in developing plans for individual or group study and a wide range of resources in terms of resource persons, books, journals, and all kinds of learning aids.

(b) The average duration may be 3 days to 10 days and the usual time-table consists of general sessions and small group meetings, free time for individual work and study, lectures and film-shows, school visits and excursions, and presentation of workshop's report.

(c) It is usual for participants and staff members to live and eat together and promote informal contacts providing for maximum opportunities for friendly discussion and exchange of ideas.

(d) The workshop broadens the professional outlook of the participants and provides ample opportunities for co-operative group work. The chief value of a workshop is "the opportunity to be challenged by one's peers". These contacts develop new interests and faith in education as well as increase the satisfaction and respect for the teaching profession.

(e) The participant is given an opportunity to make an intensive study of a problem which has arisen out of his experience as a teacher. Broadly speaking, the activities of a workshop are based upon the problems, needs and interests of the participants. Because of the pressure of regular duties and heavy teaching load, it is not often possible for administrators and teachers to study their problems during the course of the academic year.

(f) The participant shares in planning a programme of individual and group activities designed to meet his needs and those of other participants. Self-direction is a trait which can be learned only by living. Therefore, the participants in a workshop have full share of planning for it and all the activities are related to the goals of the participants.

(g) Each participant is the final judge of what is to be done about his problem. No staff member dictates anything although they offer plenty of suggestions and guidance. The participant selects the problem or project and goes about solving it with the assistance of other participants and staff members. No one makes him work by giving assignments or threatening him with poor marks. But he realizes all along that by the end of the workshop, he must achieve something notable.

(h) A major task of the workshop is the broadening of perspective. The workshop will defeat its purpose if the participants are looking all the time to their narrow field of specialisation. The real promise of workshop is in the field of group thinking and joint planning for meeting the new challenge of a dynamic society. In general, a workshop does not evaluate its members. The participants evaluate the workshop and themselves. Evaluation is a cooperative process. It is not merely a summing up but a means of promoting improvement and suggesting "next step" and "follow-up" in the professional growth of the participant as well as in the development of the programme.

(2) PROGRAMME OF SEMINAR READINGS: In our efforts for improving the effectiveness of workshops and seminars, I would commend the programme of Seminar Readings started by the DEPSE[1] (now DFS[2]). Teachers and workers

[1] Directorate of Extension Programmes for Secondary Education.

[2] Department of Field Services.

in education are requested to write papers on any of the subjects announced and submit them to any extension centre. Each extension centre organises a series of Seminar Readings in which the contributors present their papers and discuss them subject-wise. Thus instead of a seminar in which everyone comes unprepared, here is an example of a series of seminars in which several people come prepared with their papers. Every effort should be made to promote this excellent programme. It is gratifying that NCERT[3] is publishing the volumes, 'The Teacher Speaks' which contain the best papers of each year.

(3) PUBLICATIONS: Let us take another example of the publication brought out by each extension centre. While discussing the measures for improvement of publications at the Conference in Madras, Prof. T. K. N. Menon declared that the era of newsletters is now over. Newsletters and reports were needed in the first phase of our work when the goal was spreading of the gospel. What is needed now is a series of pamphlets on specific problems written in simple language for helping the teachers in their daily work. Here again, the DEPSE had shown the way by publishing several pamphlets relevant to the work of teachers. These pamphlets have been widely acclaimed. Some of these pamphlets should be translated in regional languages for wider circulation. New publications are the most important sources of new ideas and we have to go a long way in exploiting fully their contribution to in-service education.

(4) SCIENCE CLUBS: Let us take another example in which the search for new techniques would pay rich dividends—the area of science education. It has to be realized that in-service education in this area requires different techniques. One example of our search for better techni-

[3] National Council of Educational Research & Training.

ques in the improvement of science education is the scheme of School Science Clubs. It is well-known that there are few clubs in other school subjects. Although the science clubs have not achieved all that was expected, there is no doubt that they have injected new life in science education in our schools. The central science clubs located in extension centres should be fully utilized for in-service education of science teachers, specially for preparing them to run school science clubs. School science clubs and science fairs should be promoted on a national scale.

(5) Correspondence Courses: In our search for new techniques of in-service education, we should consider "Correspondence Courses" as an effective technique. Correspondence courses are being successfully used by different professional groups in several countries of the world. The NCERT has taken a bold decision in approving Summer Schools-cum-Correspondence Courses for clearing the backlog of untrained teachers in secondary schools. But this is only touching the fringe. We should carefully examine all the potential of correspondence technique in education.

(6) Staff Councils and Study Circles: Willingness for self-improvement is the most basic consideration for the success of in-service education programmes. We assume that the teachers in the schools are concerned about how they are best serving the communities in which they are located. If they find any shortcomings in their school programme, they must do something about bringing improvement. The entire organization for in-service education will be of little avail if the individual teachers and schools are not alert and willing for self-improvement. Therefore, the organisers of in-service education must put a primary value on self-improvement, initiative and local leadership of the persons concerned.

There is no better organization for in-service education than the staff in schools. In their staff meetings, the teachers have a ready-made instrument for promoting their professional growth. It is the responsibility of the headmaster to provide intelligent leadership and create favourable atmosphere in which teachers not only teach well but also learn well. Local needs and problems can best be met by the local people. Consultants and resource persons should be utilized but the local staff should see the worth of the activities. They must share in the planning, implementation and evaluation of in-service activities. It is the paramount responsibility of school administrators and organizers of in-service education to see that activities for the professional growth of teachers do not become irksome tasks or necessary evils. It should be a pleasure and privilege of individual teachers to improve their performance and grow to the utmost by using all available resources.

Study-circles have also been utilized by extension centres as a technique of in-service education. In some cases, subject teachers of one school have come together and formed study-circles for discussing the problems and procedures in the teaching of that subject. It is worthwhile to state a few basic considerations for effective use of this technique:

(a) For effective use of staff meetings in promoting the professional growth, the headmaster has to take the initiative and maintain good staff relationships. Staff meetings should be an example of a deliberative body, able and willing to do cooperative work and not a debating society. It is for the headmaster to create a favourable atmosphere in which teachers may have an active share in everything that is of vital concern to them.

(b) By successful solution of school problems through cooperative planning and working together an *esprit-de-*

corps can be developed which will inspire professional growth. By cooperative thinking, teachers not only build security and happiness within their own group but build into themselves attitudes and techniques which are reflected in dealing with their pupils. The logical place to learn and to practise damocracy is in the schools.

(c) Each school can promote teacher growth through improved personal-social relationship and school-community relationships. Many teachers need to broaden their own understanding and appreciation through reading, sports, social and civic activities. Others need help in the practical problems of living with people and in their problems of emotional adjustment. All such problems can be discussed in the staff meeting and a plan can be prepared for continuous in-service education of teachers.

(d) Under democratic leadership, well organised staff meetings will give ample opportunities for school improvement, conducting new experiments, better implementation of the syllabus, better procedures for examination, etc. The daily satisfaction of a teacher's life can be enormously enhanced if the working conditions provide a healthy and vigorous atmosphere with a pervasive sense of the worth and dignity of the individual teacher.

(e) The school must develop a cooperative life so that the pupils and teachers may learn the value of community life. The staff and students must take definite measure to ensure that the school exemplifies a real community and not simply an aggregate of individuals who come together for a few hours every day. The headmaster and the staff have to tend and nurse corporate life with all the ingenuity at their command. School assemblies, school projects, selfgovernment, co-curricular activities—all help in enriching this corporate life. Such activities need to be planned through staff meetings.

VIII PROCESS OF IN-SERVICE EDUCATION

STEPHEN M. COREY

This paper attempts to do two things. First, the need for in-service education of teachers in India, with particular reference to the secondary level, is commented on briefly. The second and major portion is a description of the process involved when teachers, or other school people, undertake to change, try to better their teaching methods or their administrative behavior.

By in-service education is meant, all of the activities in which teachers might engage in order to improve themselves professionally while they actually are teaching. In general, these activities are initiated in two ways. One kind of in-service education is highly individualized and is undertaken by a particular teacher on his own initiative and not as part of a "program" of in-service education made available to a number of them with similar needs. A teacher might improve himself "on his own", so to speak, by reading books and

journals, by getting help from his colleagues, by travel, or by individual classroom experimentation, to mention but a few of the many possibilities. This symposium, without in any sense implying lesser regard for this self initiated in-service education, is devoted mostly to a consideration of programmed in-service education. The reason for this is that the extension service departments of secondary teacher training colleges have as their major function initiating *planned programms* intended to improve teachers in service.

The need for In-service Education

Many conditions and forces in modern India have contributed to the need for in-service education of teachers. Another way of saying this is that these same conditions and forces have caused it to become increasingly unlikely that preparation for effective teaching at the secondary level can be accomplished by one or two years of post-graduate pre-service training.

A DYNAMIC SOCIETY: In a society with its eyes constantly on the past, where there is great virtue in doing only what has been done, and in the same way, the in-service education of teachers is hardly a necessity. Once they have learned to do what is expected of them they need not modify their teaching in any fundamental respect. The content of what they teach stays the same. The aspirations of their pupils remain the same, generation after generation.

But in India today change and improvement are the order of the day. The way Indians earn their livings, communicate with one another, travel about, satisfy their everyday needs for food, clothing and shelter, is undergoing constant modification as a result, in large part, of industrialization. These changes will in the future increase in tempo. If Indian schools are to serve well the emerging needs of Indian society,

they too must change. And schools can only change and improve if the people who man the schools, teachers, headmasters, inspectors and all the rest, change and improve themselves. In-service education exists to facilitate this improvement.

NEW KNOWLEDGE TO TEACH: Science and scholarship are rapidly increasing and modifying what once was thought to be the last word in all the academic areas of instruction. There is a new mathematics, a new physics, a new chemistry, and many new concepts and movements in the social studies and in language instruction. A high school teacher who desires to do his job well cannot stop learning the subject he teaches. If he does he serves his pupils ill and life passes him by. One purpose in a valid in-service education program is achieved if teachers are helped to keep up-to-date on the subject-matter of their fields of instruction.

BETTER WAYS OF TEACHING: Investigations in the psychology of learning, and experiments in teaching methods add constantly to what is known about teaching methodology. Better ways of testing and evaluation of classroom learning are constantly being invented and developed. Witness the objective examination! Better teaching materials, texts, maps, films, globes, charts, models, and laboratory apparatus are becoming available. One contribution of a valid in-service education program is to help teachers keep abreast of these materials and make discriminating use of them.

TEACHER MORALE: Few studies of teacher morale have been made in India. There is considerable evidence from other countries, however, to suggest that the morale of teachers who are helped to improve in service is higher than those who go on doing the same thing day after day *with no one seeming to care.* Teachers who experiment get more enjoyment from their work,—or at least, so they report. Teachers

who go on learning are more often admired and emulated by their pupils than teachers who have themselves stopped learning. A good in-service education program contributes to teacher morale by giving help and recognition to teachers who want to learn to do better.

The process of Teacher Improvement*

The success of an in-service education program is determined in large measure by the adequacy of the conceptions about change and improvement on which it is based. It is true that teachers change and sometimes improve for many reasons and in various ways. Some change only because they are told to do differently and are afraid of the consequences if they disobey. Others change because of chance or unpredictable and unplanned experiences they have had. A few teachers change because they want to imitate another teacher whom they admire for one reason or another. The teachers who benefit most from extension services, however, are the thoughtful ones, and these are the great majority, who actually strive to do better. What is this process of striving to do better like? If extension services are to facilitate improvements in teaching, those responsible for the services must have a realistic conception of the experience the teacher has as he goes about trying to do better.

What Precedes a Decision to Try to Improve?

There are certain forerunners of the actual process of intentional improvement. Understanding them helps place improvement itself in the proper context.

* This process is more thoroughly analyzed and described in PRACTICAL CLASSROOM RESEARCH BY TEACHERS by Corey, Stephen M. and J. K. Shukla, National Institute of Basic Education, New Delhi, India, 1962.

DISSATISFACTION WITH OWN TEACHING: Before any teacher will undertake to improve his teaching there must be some aspect of his teaching which he *wants* to improve. If a teacher is quite satisfied with what he is doing it would be foolish, *from his point of view*, to try to change. This does not mean that a teacher who seems to be satisfied with his teaching *should* be satisfied. He may be a poor teacher in the judgment of his superiors. The point is that he will not make efforts to improve *on his own initiative* unless he is dissatisfied.

When a teacher becomes dissatisfied with his own teaching he does so because he sees too great a gap between what he wants his teaching to accomplish and what his pupils seem actually to be learning. Some disparity between one's aspirations and his achievements is, of course, tolerable to everyone but the rare perfectionist. When this gap becomes too great, however, something, apparently, must be done to reduce it. A teacher may do any one of the several things. He may change his teaching aims. He may say to himself, "Trying to teach these general science students anything about ionization is not possible. They cannot be expected to have sufficient background. I feel as if I were butting against a brick wall. I am not going to try it anymore."

The second thing a teacher may do when he becomes aware of a gap between what he wants to accomplish by his teaching and what he thinks his pupils are learning is to "project" responsibility for this on someone else. The teacher might say to himself, for example, "How can I be expected to teach science to these pupils without good equipment? If the headmaster won't get me better equipment I can't help it if they learn very little."

The third thing a teacher might do when he notes a disparity between what he is trying to accomplish and what he believes he is accomplishing is to decide to try to change his

own teaching by doing something he has already had good experience with under some-what different circumstances. He might say to himself, "Maybe the difficulty these pupils are having with solid geometry is that we don't have any standard three dimensional models that will help them visualize the problems. I have used such models before and I am sure that doing so would help. What I will try to do is to get the craft teacher to make some models for me and use them."

A fourth way in which a teacher might react to dissatisfaction with his own efforts to teach what he wants his pupils to learn is of especial significance for an in-service education program. This fourth reaction might lead the teacher to say to himself something like this: "I can't seem to get across in my teaching of geography the fact that lowered atmospheric temperature causes clouds to release rain and that going over mountains gets clouds up where it is colder. That's why they dump their moisture on the windward side. I've tried everything I can think of and it doesn't seem to work, I must discover some better way to teach these ideas so that they are learned and remembered."

Whenever a teacher, (1) becomes dissatisfied with his own teaching as the result of effects that he himself notices, (2) tries but without success what he has already learned how to do, and (3) comes to the conclusion that he must *discover a better and a more effective way*, he has developed readiness for the kind of help an in-service education program can give. It might be said in passing that for a teacher himself to conclude that his teaching is not effective or satisfactory is quite different from having someone else tell him that his teaching is poor and he *should* be dissatisfied with it. Dissatisfaction with one's self generally leads to a desire to do better. Criticism by others generally leads to defensiveness and self justification or, at most, a desire to *cultivate* the critic if he is in a position either to punish or reward.

OPTIMISM: For a teacher to be dissatisfied with his own teaching will probably not lead him to make much effort to improve unless he has at least a degree of hope that he can do something to improve it. When hope is not present self-dissatisfaction is more apt to lead to frustration and discouragement than to anything constructive. An illustration of the importance of hope is the case of the teacher who felt that he was unable to teach science successfully to the 10th class pupils because he felt (a) that his class was entirely too large, and (b) there was no chance of gteting space or equipment for any practical work. This teacher's dissatisfaction with his teaching was genuine but he could see little to do about it. He was discouraged because he had no hope that anything he might do could make his class smaller or provide for practicals.

The Process of Improvement

When a teacher becomes dissatisfied with the effects of his teaching, wants to do something about it, and has hope that he can, he gets down to work.

PROBLEM FOCUS: A teacher will find it difficult, if not impossible, to take constructive action to improve if his dissatisfaction is too general. For example, a teacher might be quite displeased with his attempts to teach geography to 9th class children. If he narrows this problem down no further it is almost impossible for him to know where to start to improve. The problem that leads to his dissatisfaction is too broad. He does not know where to take hold. When this teacher, however, is able to single out from his general dissatisfaction a more focussed teaching problem he is more apt to undertake to improve his teaching.

If this geography teacher selects out of his general dissatisfaction his more specific concern about not being able to teach

his pupils map reading, this focus will help him get started doing something to improve. Sometimes a teacher needs help in achieving this focus. He must realize that trying to change *too much* is rarely successful. His attempts to focus often lead to more penetrating thinking about the general problem area. A teacher who is asked, for example, "What particular English mispronunciations bother you most?" must think critically about his general dissatisfaction with English pronunciation before he can answer.

PROBLEM DEFINITION: After his teaching difficulty has been focussed, has been narrowed down, the teacher seriously and thoughtfully interested in improving himself tries to define his problem carefully. To continue the illustration of the geography teacher who was dissatisfied with what he had been able to do to teach his pupils to read maps, he would define quite exactly what he meant by map reading. Map reading is a complex activity. What is a map? Does map reading ability mean that a pupil can look at a map and answer questions about it? Should it also mean that a pupil can use a map to find something or to travel to a designated place? Is map drawing an integral part of map reading? These and other similar qeustions must be answered if the problem is to be carefully defined.

Part of defining the problem is getting some evidence about its extent. Getting this evidence in the course of defining a problem has many values. For one thing, it provides teachers with important "base line" information. This information could be used to estimate the progress the pupils make should the teacher decide, for example to experiment with different ways and means of teaching map reading.

PROBLEM DIAGNOSIS: After a teacher has carefully defined his problem, and has obtained some objective evidence in order to understand better its nature and scope, he moves next

to a careful diagnosis of it. This means that he does his best to search for reasons for the problem's existence. This can be illustrated by referring again to the geography teacher who became dissatisfied with his attempts to teach map reading. After defining clearly what he meant by map reading, and after getting evidence about the map reading competence of his pupils, this teacher would try hard to identify the reasons for the unsatisfactory map reading.

These reasons must be determined before anything much can be done to teach better. The more carefully they are identified the more likely the problem will be solved. *Whatever it is the teacher decides to do to improve his teaching of map reading will be done because he believes it will eliminate or reduce the influence of one or more of the reasons for the poor map reading.* This sentence should be well understood. It calls tatention to a critically important aspect of a thoughtful attempt to improve teaching. It is as necessary for the teacher to diagnose carefully and get at the reasons for the situation he wants to improve before he tries to do so as it is for the doctor to diagnose his patient's illness carefully before he prescribes medicine or other treatment.

SEARCH FOR SOLUTIONS: After his *diagnosis* of the problem the teacher who has decided to change and improve begins his search for things that he might do to solve the problem. He hunts for possible modifications in his own teaching practices that might eliminate or at least reduce the influence of one or more of the causes of the difficulty. This search is, of course, best if it involves using all of the resources the teacher can get access to. Referring again to the illustration about map reading, this teacher might talk to his fellow teachers about their teaching of map reading. He might try to get and read some books or articles or even some research studies having to do with geography teaching. He could ask his headmaster or inspector for assistance.

It is especially important for a teacher to examine carefully his own past experience when he is trying to find out what to do to improve. Most of us in school and college have been taught to examine critically the experience some one else has had and written about. We are supposed to read critically, and look for flaws in arguments, or conclusions that are not justified by the evidence. Few of our teachers, though, have tried to help us re-examine *our own experience* and learn important lessons from it. This kind of re-examination of one's own experience, as critically as possible, is helped if another person lends a hand. He must be a special kind of person, however, because he must be willing to listen carefully and not talk all the time as many people trying to give help are inclined to do. He must be able to ask good questions without being threatening. He must support and not scold. A consultant or helper with these characteristics can greatly assist teachers as they try to get better insight into the real nature of their problems and what might be done about them.

As a result of his attempts to get assistance and use the resources available to him, the teacher trying to improve his instruction in "map reading" might identify a number of different things he could try which would give some promise of improving the map reading ability of the pupils. Each of these separate ideas would be examined carefully in relation to the teacher's diagnosis of the map reading difficulties of his pupils. Each suggested "remedy" for the situation the teacher is trying to improve, would be tested in the teacher's imagination. He would try to estimate its consequences.

DECIDING WHAT TO TRY: In due course this teacher must decide to try out one or more of the most promising of all of the ideas he has thought of. What he does when he makes his choice is to formulate a kind of prediction which is to be put to test by actively trying it out in class. Continuing

the map reading illustration, the teacher's prediction might go like this: "If I (a) emphasize the idea of scaling by having the pupils make scale drawings of familiar objects and areas, and if I (b) have the pupils use the scales against the actual areas and objects for estimating distances and sizes, then the map reading of my pupils will improve."

It will be noted that this prediction is in two parts. One describes two changes the teacher will introduce in his teaching of map reading. He will have the pupils make scale drawings and use the scales in estimating magnitudes. The second part predicts a consequence of these actions: "The map reading of my pupils will improve."

When a teacher decides to try out an idea, the more explicitly he describes what he plans to do, the better. For example, two teachers might be concerned about their pupils' misunderstanding of current events. They define the problem similarly and their analysis leads each of them to conclude that dull presentation of news at the morning prayer and the lack of opportunity to discuss the news with one another and with their teachers are the two important reasons for the misunderstanding. They conclude, too, that they can try to do something about these two causes. Each teacher, however, makes a somewhat different prediction to test. One goes like this: "If the morning news announcements are made more interesting and the pupils are encouraged to ask questions afterward the pupil misunderstanding of news will be reduced."

The second teacher described what he would try much more carefully. He predicted that if he (a) helped his pupils dramatize news events twice a week, (b) trained several of the best pupil speakers to comment on and interpret the dramatizations, and (c) had a different panel of four students discuss the news briefly after each dramatization and comment, his pupils' misunderstanding of the news would be reduced.

Whatever action a teacher decides to try out as he undertakes to improve should conform to certain principles. Some of these principles are listed below:

1. Whatever the teacher tries must be something he himself can bring about. Actions that require other people to change had better result from cooperative efforts in which these other people are involved. Sometimes a teacher must acquire some new skills in order to take a particular action. If, for example, his prediction is that pupils will learn better how to use historical information in considering historical problems provided the teacher employs many "thought" questions in his weekly tests, the teacher first must learn how to formulate thought questions.
2. Whatever it is the teacher plans to do as he tries to improve must be in harmony with school policy. This is only common sense. A teacher should not plan, for example, to take his pupils away from school for long periods which will cause them to miss other classes. Similarly, if it is the school policy to assign homework a teacher should not try to eliminate homework in his classes only.
3. The teacher's actions should be such as not to interfere unduly with the routine activities of the school. Any decision on the part of a teacher that causes pupils to remain absent from morning assembly or physical exercises or cultural programmes interferes with a school's organized routine activities and hence should be avoided.
4. The action should be one whose consequence can be determined within a reasonable period of time.

PLANNING HOW BEST TO TRY OUT THE NEW IDEA: After the teacher has decided what it is he wants to do he then

develops a careful plan so that he can be reasonably certain of its outcome. These plans usually involve giving attention to several problems. The first involves developing ways and means for getting evidence on the extent of the problem. This has been mentioned above under the heading "defining the problem." Getting this "bench mark" evidence often requires ingenuity on the part of the teacher.

Often the more important is the evidence the harder it is to get. It is, for example, easier to get evidence on pupil improvement in spelling ability than it is on pupil improvement in their ability to use language. Most people would admit, though, that using language well is more important than spelling well. Similarly, getting evidence about the weight of pupils is much easier than getting evidence about their attitudes.

A teacher who tries to change must evaluate his new procedures. In other words he must work out a procedure for getting evidence regarding the degree to which trying out a promising idea has caused his pupils to improve. Referring again to the map reading illustration, there must be evidence for the teacher to learn whether or not the pupils are better at reading maps after the increased emphasis on scaling.

Summary

This paper has included comments on the need for in-service education as well as on the different things a thoughtful teacher does as he tries to improve by tackling some particular instructional problem that bothers him. The main point to extension services is to assist the teacher in this improvement process. The activities and resource people providing extension services must help the teacher identify

and define teaching problems more carefully, develop hope that he can do something about them, search for and think about a range of possibilities for modification of his teaching, select a specific promising innovation to try, put it into effect carefully, and evaluate the consequences.

Problem identification and problem definition are crucial to any programme of improvement and change. School personnel require a lot of consultation in identifying and defining their problems. An extension worker requires to be adequately trained before he can offer services to teachers in these aspects of experimentation for improvement. A series of conferences with teachers, individually and in groups in identifying and defining problems would constitute an important element in the in-service education programme of teachers leading to professional growth. The essential pre-requisite for such a programme is an effective training of the extension worker himself in the process of action research as described here.

IX. INNOVATIVE PRACTICES IN IN-SERVICE EDUCATION

In-service education programme was started on a planned and organised basis in India in the year 1955. About twelve years have passed and the programme has spread all over the country. Today there are about 100 extension services departments in secondary training colleges and 45 extension services departments in elementary teacher training colleges. In addition to these extension departments, a large number of agencies are working in the field of in-service education. Some of these agencies are: The State Institutes of Education, The Science Education Units, The State Evaluation Units, etc. At the national level the NCERT (National Council of Educational Research & Training), through its various departments, is organising extension courses and in-service courses for teachers, inspecting officers, textbook writers, teacher educators, etc. When the extension programme in the field of education

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has attained such huge dimensions it is worthwhile considering the development of new ideas, new techniques and new practices evolved by extension workers all over the country. It is well recognised that how-so-ever good a programme may be, it will not be accepted by the community unless the programme is presented using techniques which are appropriate. The wellknown techniques of in-service education evolved by extension workers are: seminars, workshops, refresher courses, summer schools, and so on. These are quite good, but they have their own limitations. The extension workers in the country have developed through experience a number of new ideas and practices in the field of in-service education. What is required today is collection and compilation of these practices evolved by various extension agencies in the country and make them available to the extension workers and other agencies which are responsible for organising extension activities. Some of these ideas and practices have been found quite promising and have got institutionalised whereas others are still at the tryout stage. A brief summary of some of the promising practices is given here for the benefit of the extension workers.

1. Educational Pilgrimage

The major task of extension education is to provide first-hand experiences to teachers and headmasters for their professional growth. A number of schools employ a variety of innovative practices in school organisation and classroom instruction. To provide a first hand experience of new practices in action, a programme of 'Educational Pilgrimage' has been successfully tried out by the Ahmedabad Extension Centre. The idea for such a programme originated from the professional association of headmasters and teachers. Headmasters Associations of three districts requested the

Extension Centre to arrange for a group visit of some of their members to a few selected schools where some good work or projects were going on. The group was invited by the Extension Centre. It visited one or two schools daily, observed the projects going on in the schools and discussed the details with the headmasters and teachers. It met in the office of the Extension Centre at the close of each day and shared their own opinions and thinking. This was repeated for two or three days and a final group meeting reviewed the whole programme with special reference to prevailing conditions in their own schools and what new projects and practices each one could introduce.

2. Orientation of New Headmasters

In a programme of school improvement, headmasters play an important role. A new headmaster requires adequate orientation to the problems of school administration and providing leadership to the school staff.

The Belgaum Extension Centre organises orientation programmes for new headmasters. A special syllabus is tried out. The emphasis is on the special problems confronting headmasters. The programme has been very popular and there is a great demand for such a course every year.

3. Content Courses for Teachers

The Education Department of Mysore State was faced with the problem of updating the knowledge of the teachers, who were to handle the class XI of the higher secondary schools. All the extension departments in the State took up this programme of enriching the teachers with the content

of class XI in different subjects. Refresher courses in content of a short duration were cooperatively organised for the last three years in the State. This programme has become a permanent annual feature.

4. A New Way to Follow Up

Follow up activities for extension programmes occupy an important place if the programmes are to be effective. The Extension Centre, I. T. College, Lucknow tried out a new device for the follow up work and found the same very useful. The follow up work is done with individual teacher who attended an extension programme. A monthly report of the implementative programme is obtained from every teacher. The report shows all details about the changes brought about in the instructional process by the teacher. The report is countersigned by the principal who is thus, kept aware of the use made by the teacher of the knowledge gained in the seminar. The report is taken to the Regional Inspectress of Girls Schools, Lucknow, for her information. She is requested to write her own comments on each report which is again shown to the teacher concerned. This has resulted in creating readiness on the part of the schools to depute teachers to extension programmes deemed useful for the school personnel.

5. Concept—Approach in Content Courses

The issue faced by teachers' colleges in teacher preparation programmes is the inadequate content background of teachers. The same issue is faced by extension workers. Whereas during summer holidays, content courses are organised by national agencies for a longer duration, extension centres

have to tackle the problem of content enrichment of teachers on a smaller scale during the year. The Extension Centre of St. Christopher's Training College, Madras, has developed a programme of 'concept-approach' to content courses of shorter durations.

While conducting seminars and workshops dealing with content material of subjects such as Geography, Science, History, etc., the method of 'concept-approach' has been followed. The subject matter in the particular topic has been arranged according to the concepts involved. Teaching just the subject matter from the textbook leads, in many cases, to the loading of the minds of the pupils with facts and figures but without a proper understanding of the important concepts underlying them. In addition, for each group of concepts, teaching techniques, teaching aids, pupils' activities and reference books are given. It has been found that this method has been very successful with teachers, specially for difficult and unfamiliar topics.

This year such programmes have been arranged as a series for one specific standard and they have been conducted for a period of two days at a time and two programmes in each term. Thus it has been possible to give detailed information and help for all the topics in the syllabus, on a staggered time schedule.

6. Direct Experience in In-service Education

Teachers attending in-service programmes have often been heard to remark that discussions at theoretical level without a practical demonstration are not appealing nor convincing.

The Extension Centre of Government Training College for Women, Allahabad, organised a practical demonstration

of a programme to develop more effective understanding among the participants. The theme was *Group Discussion* technique for classroom instruction. The centre utilized the children's day to demonstrate the technique to the teachers. Two hundred children—twenty from each school—were involved in the programme. The children were divided into twenty groups. To each group two or three teachers were assigned. The teachers had a brief session on group discussion earlier. The group discussion session of children went on for two and a half hours. The college teachers also were invited to join different groups as observers. This was followed by a review session of school teachers and college teachers. The programme has been a good medium to bring the college and the school teachers closer. The school teachers actually saw a group discussion technique in action.

7. Outpost Centres

The teachers' colleges find it difficult to expand the programme of professional growth activities of teachers due to financial and personnel limitations. The college teachers are busy with the regular college programme throughout the week. Further it is expensive to call teachers to the college from far off places again and again. To overcome these difficulties and to secure greater involvement of school principals in extension programme, the Extension Centre of M. B. Patel College of Education, Vallabh Vidyanagar has introduced a new innovation of establishing a few *extension outposts* in the secondary schools of the district.

Under this scheme the Centre tries to make the activities of the school improvement programme more need-oriented and effective. Normally one outpost centre caters to the needs of about twenty to twenty-five schools. Out of the twenty to twenty-five schools, the headmaster of a centrally

located school with good equipment, works as the honorary co-ordinator. Each outpost centre takes up its own common problems and works upon them throughout the year. For this the honorary co-ordinators (i.e. the headmasters in-charge) contact schools attached to their centre and collect problems and try to understand them. The problems are sorted. In the light of these problems seminars, workshops or discussion meetings are organised. The honorary director, co-ordinator and resource-person, if need be, go to the place at the time of the seminars/workshops and assist the participants in their deliberations. The Centre has a practice of inviting the honorary co-ordinators once a term to review the work done and to discuss and chalk out a plan for the next term. They, before coming to such meetings, contact the headmasters and take their sense for the programme to be planned and implemented during the next term.

The Department helps the outpost centres in the following way:

(a) Holding meetings of subject teachers and headmasters of the schools attached to the outpost centres.

(b) Visits by honorary director, co-ordinator and subject experts.

(c) Inviting principals (honorary co-ordinators) to visit the Extension Centre for discussion.

(d) Lending films, filmstrips, books and other instructional material.

(e) Helping them in arranging educational exhibitions, activities of science clubs, etc.

(f) Guiding them in undertaking any experimental project in their academic programme.

Good features of such an innovation are:

(a) The schools have become independent in shouldering the academic responsibility.

(b) The heads of the schools have started playing a role in taking up leadership in academic matters that affect their schools.

(c) The schools have shown their willingness to bear a portion of the financial responsibility regarding printing and publications.

(d) The outpost centre innovation has proved a success by making the schools realise the efficiency of decentralised technique of extension work.

8. Schools on Wheels

This is another innovation that has been introduced by the Extension Centre, M. B. Patel College of Education, Vallabh Vidyanagar. The purpose of the innovation is to make the schools realise common problems, and to attempt a joint enterprise in solving them. This will further involve many persons and thus pave the way for working together with a joint responsibility for a purpose.

The first problem that was tackled by the first group of twelve schools, under the programme, was English syllabus for Stds. VIII and IX. The usual complaint of the teachers of English was the big gap that they experienced between the first two grades viz. Stds. VIII and IX in English teaching. The entire problem was analysed very carefully by a group of senior, experienced teachers of English and ultimately they modified the prescribed syllabus into an experience-centred curriculum. Later on at regular intervals the subject teachers were invited from this group of schools and were assisted in preparing supplementary reading material, their plans, assessment techniques, etc.

This type of work encouraged the extension centre to work in other areas. Another group of ten schools has now taken up a programme in Mathematics. Teachers are being oriented and they have started their work in the direction of planning and preparing graded assignments, etc.

The 'Schools on Wheels' programme will ultimately, it is hoped, result in what we now call a 'School Complex'.

9. School Adoption Programme

This is yet another novel idea of the above college. Nomenclatures are immaterial when objectives ring with a tune of sincerity. The idea behind this innovation is to help the remotely scattered village schools. Through the visits of schools the extension personnel noticed that there exist a few schools in the district that do not have a picture or a map to decorate their walls. Under the circumstances, the extension centre with the help of the teachers' college, decided to help the schools by giving them gifts of teaching aids prepared every year by the college trainees. Every year ten such schools are adopted and given such gifts. One of the schools is also selected as venue of some seminar or workshop. This is just a beginning of this novel feature but the Extension Centre feels that this will be a good help to the remote schools and their teachers.

Another recent feature in the adoption programme is encouraging some secondary school in the village to adopt primary school of the same village. The secondary school in this case will be helping primary school teachers in their school problems. Two or three meetings were held in two villages and the primary school teachers have welcomed this feature. This will, it is hoped, establish a link between the primary and secondary schools and if this materializes, this

will be the most valuable change introduced into the hierarchical relationship of our teacher community.

10. Mass Contact of Teachers

The Extension Services Centre of the G. K. Institute of Rural Education, Gargoti, District Kolhapur, has adopted an innovative idea for contacting all teachers of the area. Here is what the Honorary Director says about this practice:

(i) Our area consists of fifty villages round Gargoti. All the schools are located within a radius of few miles from Gargoti. Hence for contacting all teachers and carrying out our programmes of extension we have devided the area into four sub-areas and selected one big school in each sub-area as the sub-centre. Thus, we have four sub-centres at Nilpan, Madilage, Kur, and Shongaon in addition to the main centre at Gargoti. Once a month teachers in each sub-area meet and discuss problems of teaching some school subjects. It thus becomes possible to meet all teachers in the area once a month.

(ii) The centre has selected some special schools for developing them intensively. The teachers in these schools meet at the centre once a month. Projects for development with full details are placed before them and the schools are allowed to select any of the proposals. The centre assists the schools to carry out the project selected by them. Under this scheme a number of projects as gardening, book-supply, improvement of attendance, reading clubs, science clubs, are being implemented in some selected schools.

11. Nucleus Schools

The Extension Centre, S.M.T.T. College, Kolhapur reports the following innovative idea:

The fast expansion of facilities for secondary education in the State during the last decade has given rise to a number of secondary schools especially in rural areas. These schools in general are facing a number of difficulties which ultimately affect the quality of education. The most prominent among them is the scarcity of qualified personnel both for teaching as well as for organising and administering the schools. The meagre resources at the disposal of such schools also create many other difficulties viz., shortage of apparatus, equipment, library, etc. Unless some cooperative effort is made by such schools, it is difficult for them to come up to the mark. In the present circumstances, organisation of Nucleus Schools is but imperative.

The concept of Nucleus Schools is based on the principles of mutual cooperation. It aims at:

(1) inspiring leadership in experienced and able teachers and headmasters of established secondary schools;

(2) developing attitude of mutual cooperation, and the spirit of exchange of ideas, experiences, etc. among the secondary schools in rural areas;

(3) exploring possibilities of extending services to the needy schools through the established schools, and thereby enabling the rural schools to meet the several difficulties faced by them;

(4) organising teachers' and headmasters' seminars and/or workshops with singular purpose of bringing about their professional development.

Functioning of the Group:

(1) Schools are organised into suitable groups having at least one self-sufficient school of long standing and good reputation. Ordinarily a group will consist of five to ten schools within the radius of about five miles.

(2) The headmaster of the self-sufficient school which is being treated as the 'Nucleus School' organises regular meetings of headmasters of the member schools at regular intervals for discussing the difficulties of the schools and for trying out different solutions to overcome them.

(3) Meetings of teachers are convened at suitable places subjectwise for organising the year's work and for discussing ways and means to improve teaching.

(4) Seminars and refresher courses are organised for teachers in different subjects.

(5) Possibilities are explored to exchange teachers between different schools.

(6) Library services are organised both for teachers as well as pupils with mutual cooperation.

(7) The schools are able to organise revision classes, etc., for the benefit of the pupils of the top class during vacation.

(8) The schools are able to organise various co-curricular activities for the benefit of the pupils within the group of schools.

(9) The schools are able to prepare common programme of assessment.

Given the proper inspiration and guidance, the scheme of Nucleus Schools may go a long way in helping teachers and

headmasters in their professional development and in raising the tone and academic standard of the rural secondary schools to some extent.

12. Formation of Subject Teachers Associations

Some of the extension centres secure a closer involvement of teachers by organising them for a programme of self-improvement into subject teachers associations. The Extension Services Department, College of Education, Hyderabad has a tradition of involving professional associations of teachers in in-service education programmes.

Under the auspices of the Department the following associations have been formed:

(i) Science Teachers Association
(ii) Mathematics Teachers Association
(iii) Social Studies Teachers Association
(iv) Hindi Teachers Association
(v) English Teachers Association
(vi) Headmasters Association

These associations are formed to encourage teachers to improve their professional competency. Various activities are taken up by these associations, for example, frequent meetings, discussions on classroom instructional problems, organising content courses, demonstration lessons, arranging extension lectures, etc.

In the case of Science Teachers Association, branch associations are also formed at the district level. The Science Teachers Association is one of the very active subject teachers associations, working under the guidance of the Extension Services Department. There is no financial involvement

on the part of the Extension Services Department, except by way of convening meetings and arranging courses.

Formation of subject teachers associations is an easy task, but to maintain the enthusiasm of the subject teachers sometimes becomes a problem. This is especially true in the case of city teachers, who engage themselves in some kind of extra remunerative work and do not attend subject teachers meetings. Though a number of subject teachers associations have been formed, some of them are realatively inactive. Steps are being taken to revitalise them.

13. Group Work

Teachers accept the importance of group work in classroom but many of them are not convinced about the tremendous potentiality of this classroom instructional approach. The Extension Centre, Government Training College, Trichur, has been successful in driving home this useful idea into the minds of a few teachers. The centre reports:

Many teachers were not in the know of the full potentialities of group work. Through various devices like discussion, talk, film show, demonstration, pamphlets, etc. the idea of group work with its unlimited possibilities for student-growth has been impressed upon the teachers. As a result, many schools have adopted the group technique in many of their curricular and co-curricular activities. Group composition, group discussion, and group assignments have become a common feature of many schools.

14. Involvement of College Faculty in Extension Work

One of the most important 'must' in implementing a rich and varied in-service education programme is the deep

involvement of the college faculty in the extension work. If this is not achieved, the programme of the centre lacks vitality.

All colleges attempt to secure this involvement but very few are really successful. One of the teachers' colleges in Gujarat has adopted a novel approach to secure deeper involvement of college staff in this programme. The Honorary Director says:

We do not consider Extension Department as a separate unit started by the National Council of Educational Research and Training. We feel that this is the programme of the college and we attach equal importance to this as we do to various items of the pre-service education programme. Our approach is to ask the faculty to plan out a programme of in-service education in their own subjects. This does not mean that we do not consult schools and teachers. That we do and the college professor is aware of the problems of schools. This has resulted in developing a conviction amongst college faculty that they have an equal role to play in the programme of extension education as they do in the pre-service programme. The co-ordinator does not feel the burden of planning a number of programmes as that responsibility has been undertaken by the entire college faculty. We have found this quite successful though we felt in the beginning that it may create administrative problems.

15. Headmasters Forums

Extension centres in Rajasthan have utilised the existing Headmasters Forums to stimulate professional growth activities. A Headmasters Forum normally functions at a district level, though in bigger towns, local Headmasters Forums also exist. The forum is a voluntary association of headmasters. Usually all the headmasters of the district belong

to the forum. Meetings of the Headmasters Forums are organised periodically where discussions on specific problems take place.

The Udaipur Headmasters Forum sometime back took up the question of promotion policy and rules for detailed study. The Forum met a number of times, collected relevant information and took certain decisions. In all these deliberations the Forum received assistance from the local extension centre.

The Headmasters Forum of Bikaner District has taken up the problem of improving the organisation and use of school libraries.

One advantage of these forums is that programme is drawn out cooperatively by the headmasters and the extension centres. A change in the extension personnel or a transfer of a headmaster does not result in the dislocation of the programme. A continuity is always maintained.

16. Refresher Training Centres

The Department of Education, Rajasthan State, has introduced an innovative idea of imparting in-service education to primary school teachers on a year round basis. Four Refresher Training Centres have been started in the State. These Centres have been started by converting existing Primary Teacher Training Schools into full-fledged institutions of in-service education. The institutions known as 'Refresher Training Centres' organise refresher courses of a month's duration for primary teachers. About nine or ten courses are organised every year. Every month all the primary teachers from a Panchayat Samity (Community Development Block) are invited to join the course. During this month, the schools in the Panchayat Samity area remain closed. In

order that the pupils' programme may not suffer the vacation period in the district for different Panchayat Samity Blocks is staggered.

This programme has been found quite effective. The State had started with one R.T.C. before three years and the number of such centres has gone to four by now.

17. Voluntary School Study Council—*BIRADARI*

Extension programmes have released the latent energy of quite a few school personnel. Many of them have been stimulated to take up programmes of school improvement. In some places, the science teachers have formed voluntary associations for improvement of science education. At other places, curriculum groups have started functioning. In Gujarat more than fifty schools have formed themselves into a voluntary association known as *BIRADARI*—a fraternity. It was established in January, 1966.

We are facing a dilemma today by continuing the old-fashioned educational structure, organisation and programmes in the midst of rapidly changing economic, political and social order. It is with the sole purpose of overcoming this lag that the colleagues began to meet under the auspices of *Biradari*. *Biradari* is a fraternity of conscious headmasters/teachers who are alert to the changing surroundings. They also feel that they are thrown by some forces in disharmony with what is going on around them in the world. They have been trying to do their best to strike some compromise. *Biradari* is a group of these people who have now decided to attack their problems jointly, thus revealing and reaffirming their faith in the famous proverb, "Union Is Strength". On the platform of *Biradari*, the members meet and discuss new ideas to try them out. Their aim is not to produce

reports of discussions and prepare prescriptions, but to think and actually try innovations in every area of their professional activity.

The objectives of this organisation are:

(1) To provide a forum for free discussion.

(2) To enable members to discuss problems with which they are concerned and to think of remedies and solutions.

(3) To try out and experiment with new ideas and ultimately to institutionalise the good ones.

(4) To encourage others in the profession to undertake experiments and innovations.

(5) To communicate new ideas to fellow workers.

(6) To provide fellow workers with the guidance and counsel for the professional improvement.

(7) To prepare and try out instructional material such as work-books, rapid reading books for pupils and handbooks for teachers, etc.

Programme of Biradari includes:

(1) Giving orientation to fellow workers.

(2) Organising talks by distinguished educationists.

(3) Organising symposia, workshops, etc. on problems and practices.

(4) Preparation of instructional material:

  (a) for pupils in the form of work-books, tests, assignments, etc.; and

  (b) for teachers in the form of handbooks, source books, manuals, reference materials, annotated bibliographies, teaching aids, etc.

(5) Publication of a bulletin of the *Biradari*.

(6) Organising services for research and experimentation.

The organisation has not only held meetings to discuss various problems but also has actually produced instructional material for pupils as well as for teachers.

18. Internship

This innovative idea had been tried out successfully by Baroda Extension Centre some years back. A batch of six tachers from schools in the rural area were interned in the University Experimental School.* The duration of this internship was one week in each term, the total duration being two weeks in one year.

The internees were briefed about the programmes and practices of the University Experimental School by the Principal in a short session on the first day. After that they visited the various classes and observed the instructional programme. They also used to attend the staff meetings and to participate actively therein. The internees took down their own notes. At the end of the day the internees had a review session with the Co-ordinator. They discussed not only their own observations but also what they could do in their own schools to bring about improvement. Towards the end of the week each internee prepared his own plan of implementation, a copy of which was sent by the Extension Centre to the principal of the concerned school to ensure a proper follow-up.

19. Science Fair on the Wheels

The Extension Centre at Poona was faced with the problem of increasing demand from schools located in different places for organising the science fair. The centre innovated a new practice to meet this situation. The science fair was

* This school is attached to the Faculty of Education and Psychology, Baroda.

first organised at one place where the children explained their own experiments to the visitors. After the fair was over, the exhibits were packed in boxes and displayed in a school in another town. The surrounding schools were preintimated about the dates. This process was repeated at other places. Thus more school teachers and children saw the products of science club activities of the schools in the districts.

20. In-service Education through Correspondence

The Extension Centre at Ferozepur is trying out a new innovative practice of offering in-service education through correspondence. About forty teachers have been selected in this experimental programme. A faculty member is in charge of the programme. A three day seminar of the participants was called in the first instance. The whole programme was discussed with them. The assignments and units were prepared and mailed to participants. Though the innovation is in the try-out stage, it has been received very well by the participants and the schools, and seems to have good prospects.

Other Promising Practices

(a) One extension centre has a programme of taking the research results of the college to the schools. A number of standardised achievement tests have been administered in a large number of schools. The teachers have been trained in the technique of test administration, scoring and interpretation of scores.

(b) To know the real needs of the teachers for a programme of in-service education, one co-ordinator has started a practice of a short survey through a brief questionnaire before the programme of the in-service course is finalised.

(c) One extension centre has established an outpost centre in one school about 50 kilometers away. Periodically the teachers meet in evening sessions and discuss educational problems.

(d) One extension centre has developed a practice of organising annual in-service programme for the teachers of the district in cooperation with district schools association. The association bears the T. A. expenditure of the participants and the extension centre bears the D.A. charges. For the last six years, the a. sociation has been providing an amount of Rs. 2000 to Rs. 2500 in its budget to meet this expenditure. This helps the extension centre to undertake more programmes within the limited budget.

(e) In one extension centre, a good practice developed regarding the publications for the teachers. About six schools took up the responsibility of developing small school improvement monographs and of bearing the cost of their publication.

(f) Three co-ordinators have found developing personal relations with teachers and headmasters, through informal contacts, very helpful in promoting professional growth activities of teachers.

(g) One centre has reported that organising in-service programmes in schools and giving the responsibility for the programme to the school principals are very effective in stimulating professional activities amongst the teachers of such schools.

(h) A regular quarterly publication, where mostly the school teachers and principals are the main contributors, has been found quite effective in stimulating teachers and principals to think on their own professional problems. In the periodical, projects undertaken by schools are reported and discussed.

Conclusion

A large number of innovative practices have been listed above. The agencies reporting these practices have found many of the practices quite successful. Extension programme in India though twelve years old, can still be considered young. The objective of extension activities is to bring about desirable changes in education of the country. The programmes started with practical work. An attempt was made to develop the theory of extension in the field of education in the year 1965.* This shows a definite progress in the development of extension education. What is now required is a programme of studies and investigations into the methods and techniques of extension. New research studies require to be taken in the field of extension education. If some studies have been taken up they are more in the field of industries, extension work in agriculture, etc. and not in the field of teacher education. The new ideas and practices developed by different extension agencies will provide the necessary stimulant to research workers to take up some study regarding the effectiveness of different extension practices. The extension workers also may like to try out some of the practices carried out elsewhere and try out their effectiveness in their day-to-day work.

* Dr. R. H. Dave's paper in the first section was originally read at the Convention organised by DEPASE in 1965.

SECTION THREE

IN-SERVICE EDUCATION OF VARIOUS TEACHING PERSONNEL

Various categories of teaching personnel include mainly the college and university teachers, school teachers, and teacher-educators. Of these, the school teachers are provided with organized pre-service education in their professional field. But as has been emphasized all throughout this book, in this changing world, they soon become outdated. Sometimes their pre-service preparation itself is of an outdated nature as has been pointed out by Dr. Buch in his paper in this section. For the college teachers and the teacher-educators there are no pre-service programmes of any kind. It is a debatable question whether an organized systematic training of any kind is necessary for them or not. If their duties are analysed, they appear very much similar to those of the school teachers. They face the same task of imparting knowledge which is rapidly advancing, and of developing various skills, attitudes, thinking and creativity. They are constantly dealing with human beings. They have to deal with them as individuals as well as in groups. They have to evaluate the progress in the directions of goals from time to time. And at least sometimes they would be called upon to help individuals with their personal problems or to administer educational programmes or institutions. The discipline of education has developed a great deal as a result of accumulated knowledge in the fields of philosophy, psychology, sociology, social work, public administration and so on. The various courses in education help the teacher to undertake effec-

tively many of the assignments listed above. The orientation in modern pedagogy seems inevitable for any one teaching at any level. Moreover the ideas and techniques go on changing and it is not enough to know about advancements in one's own subject field, but also necessary to keep abreast of the ideas and techniques involved in educating others. The modern idea of curriculum, for example, is a must for any teacher who would otherwise be bewildered by the accumulation of facts in his area of study. The point is, therefore, how all these ideas in the field of professional education can be imparted to a practising teacher. There are no two opinions about the fact that this is important and necessary. The opinions, however, radically differ as to how this could be imparted. There is no problem so far as the school teachers are concerned. Dr. Buch discusses the development and growth of in-service education programmes for school teachers. He also gives a brief history of their pre-service professional preparation. He further raises the most vital issues in in-service education in the context of the present practices in this country. Dr. Desai stresses the importance of an organized programme of orientation for the college teachers. He outlines the contents of such a course which he thinks is necessary for many a new teachers in the expanding field of higher education, to whom the proper methods of teaching and dealing with students may not reveal themselves. Dr. Mehrotra, while discussing in-service education of teacher-educators, lays stress on teachers' own efforts at continuous professional development. He believes in creating a proper atmosphere for this within the institution rather than exposing the teacher-educator to a full-time certificate or diploma course in teacher education. He is, however, very much in favour of giving the teacher all facilities for taking higher masters' or doctorate degrees which are in line with his chosen career.

X IN-SERVICE EDUCATION FOR SCHOOL TEACHERS

—Retrospect and Prospects

With the rapid increase in knowledge and advancing civilization, no teacher can claim to fulfil his responsibility to his maximum. Not only in education but in other fields of life too, one becomes outdated unless he makes conscious efforts to keep pace with the dynamic society and new changes in the content and techniques in his respective field. Doctors, engineers, lawyers, and businessmen—all need to grow professionally. In the fields of science and technology, continuous changes are automatically introduced in the content courses; but in the field of education, the need was not so apparent and its importance was realised very late. Only in very recent years, compelling forces have highlighted the necessity for providing teachers with the opportunities to increase their knowledge, insight and skills of teaching and the need to indulge in their job with greater enthusiasm, wisdom and courage.

M. B. BUCH

Historical Background

The history of in-service education in India is not a very old one. Viewed as a course of continuation of education for improving the professional competence of the teachers, both in content and method of teaching, the concept of in-service education is undoubtedly a development of comparatively recent times. But to think that the idea of expanding education beyond the four walls of the institution is a new one, unknown in the past, woud not be quite correct. From what is known, it can safely be stated that the idea of extending education to the community at large through different media was there in India even in the distant past, although we have no historical evidence to suggest that there was any positive programme of education deliberately designed for the teachers in service. It is a known fact that extension media such as the fairs and festivals, semi-formal socio-religious media as the community discourses (Katha), pilgrimages (Yatra), etc., were potent means of providing social, religious and moral education to the whole community including teachers. But, of course, what we mean by in-service education of teachers in the professional sense is a development of recent times.

A study of the development of in-service education in modern India will not be complete without a review of the growth of pre-service teacher education with which it is intimately related. A peep into the history of education in this country reveals that hardly any attempt was made to provide pre-service education for the teachers before the nineteenth century.

It may be pointed out that, as in many other directions, in the matter of teacher training also, the initiative came from the missionaries. Early in the nineteenth century, the European missionaries started normal schools and classes

to impart training to the catechists and teachers of the mission schools. Among these missionary pioneers, mention may be made of Rev. May of Chinsurah (Bengal), Rev. Duff and Rev. Long who had started normal schools of their own for training the teachers in pedagogy. It was in the year 1846 that the Council of Education in Bengal started a normal school in Calcutta for providing some sort of education to the teachers of the elementary schools. Eventually on account of financial reasons, the Council gave up the attempt.

In their Despatch dated 19th July, 1854 (Wood's Despatch), the Court of Directors declared:

> Our present aim should be to improve the teachers whom we find in profession....They should moreover be encouraged to attend the normal schools and classes which may hereafter be instituted for this class of teachers,.... We desire to see the establishment with as little delay as possible of training schools and classes for masters in each presidency of India.[1]

After the publication of the Wood's Despatch a few normal schools were opened to prepare teachers at the elementary level. The first professional college to prepare teachers at the secondary level was opened in Madras in 1856. Incidentally, this was to be the only college for the next fifty years to follow.

In 1882, the Government of India appointed the Indian Education Commission. The Commission (1882-83) recommended:

(a) That an examination in principles and practice of teaching be instituted, success in which should

[1] J. A. Richey, C.I.E., *Selections from Educational Records*, Part II 1840-59. Bureau of Education, India, (Calcutta: Superintendent, Government Printing, India, 1922) pp. 384-386.

thereafter be a condition of permanent employment as a teacher in any secondary school, Government or aided.

(b) That graduates willing to attend a course of instruction in a normal school in the principles and practice of teaching be required to undergo a shorter course of training than others.

Thus we find that these two important documents were concerned about the quality of teachers who as a rule entered the schools without any training in those days. Pre-service training and its provision appear to be the keynote of the various recommendations of these two august bodies.

In a country where the professional preparation of teachers started more or less during the twentieth century, one could not expect a special consideration or a thinking in the field of in-service education earlier.

An early reference to the need of in-service education and the role of the training colleges was made in Lord Curzon's Resolution on Educational Policy in 1904. It stated:

> Every possible care should be taken to maintain a connection between the training college and the school so that the student on leaving the college and entering upon his career as a teacher may not neglect to practise the methods which he has been taught, and may not (as sometimes happens) be prevented from doing so and forced to fall into line with the more mechanical methods of his untrained colleagues. The trained students whom the college has sent out should be occasionally brought together again and the inspecting staff should co-operate with the training college authorities in seek-

ing that the influence of the college makes itself felt in the schools.[2]

The above Resolution for the first time emphasised the importance of in-service education of the teachers. Also, mainly due to Lord Curzon's initiative, the facilities of pre-service education of the secondary teachers were expanded. Two more training colleges at the secondary level were established, one at Bombay in the year 1904 and another at Calcutta in the year 1908.

The next landmark in the history of in-service education was the Government of India's Resolution on Educational Policy, dated February 21, 1913. It laid down the major principles for the expansion and improvement of education and again emphasised the importance of in-service education for the teachers. The resolution said:

> The trained students whom the college has sent out should be occasionally brought together again and the inspecting staff should co-operate with the training college authority in seeing that influence of the colleges makes itself felt in the schools....As teachers left to themselves are liable to deteriorate, there are great advantages in periodical repetition and improved courses during school vacation.[3]

In the year 1929, the Hartog Committee in its recommendations clearly came out with the need for in-service education of teachers. Inter alia it recommended:

> Even under ideal conditions where the right type of teachers have been selected and well trained, the teacher is much isolated and must often be in need of

[2] *Indian Educational Policy*, (Resolution of the Government of India, Dated: Calcutta, 11th March, 1904) p. 164.

[3] H. Sharp, C.I.E., *Progress of Education in India*, 1907-12, Vol. 1, (Calcutta: Superintendent, Government Printing, India, 1914) p. vii.

guidance and encouragement. Journals, refresher courses, conferences and meetings can do much to brighten the lives of the teachers and improve their work.[4]

After the recommendation of the Hartog Committee, one finds some sporadic attempts at the in-service training here and there. The State Government of United Provinces started a scheme of refresher courses for school teachers and several courses were given at different universities by university professors. However, due to financial difficulties this scheme was discontinued. Madras Government introduced the practice of vacation courses, but they also were discontinued. Even after the recommendations of the Hartog Committee, no systematic efforts appear to have been made either by the Government of India or by the universities or training colleges to organise a planned programme of in-service education in the country.

In the year 1937, the report on Vocational Education in India by A. Abbot and S. H. Wood was published. The authors of this report clearly referred to the new concept of twofold nature of training of teachers, namely pre-service training and in-service training. They stated:

> We are of the opinion that the training of teachers should consist of two distinct parts. First — a pre-employment training of students in normal schools and later refresher courses for practising teachers....The second part of training has not developed in India to the extent which conditions of the life and the service, particularly of rural teachers demand....If the spirit of those who have had something before entering upon their work is to be kept alive and if their technical skill as teachers

[4] Indian Statutory Commission, *Interim Report*, September, 1929, Government of India, (Central Publication Branch, Calcutta, 1929).

is to be improved, it is vital that they should have opportunities from time to time to attend refresher courses. The time may not yet be ripe for the logical outcome of this conception of twofold nature of the training of teachers. But in course of time there ought to be in each province a Government Training College comfortably housed, well equipped and organised and staffed for the purpose of providing a sequence of refresher courses of one or two months' duration throughout the year.[5]

The climate for in-service training of teachers gradually improved in India after 1937. This is evident from the reports of other commissions and resolutions by professional organisations of teacher-educators.

In 1944, the report on "Post war educational development in India," while discussing the need for an improved organisation of teacher preparation, said:

> In addition to the provision for the actual training of teachers, refresher courses in accordance with the recommendations of the Board should be provided at frequent intervals in order to keep trained teachers up-to-date. Such courses should cover all the subjects of the curriculum as well as new ideas and methods of general interest. They are of the greatest importance in a country where a large number of teachers necessarily serve in isolated villages.[6]

During the years 1944 to 1948 one finds different States taking up the programme of refresher courses in the

[5] *Vocational Education in India with a Section on General Education and Administration*, Abbot and Wood Report, Bureau of Education, India, (Government of India Press, Simla, 1937).

[6] *Post War Educational Development in India*, Report by Central Advisory Board of Education, January, 1944, Bureau of Education, India, (Govt. of India Press, Simla, 1944) p. 64.

country. Madras had already started a programme of refresher courses for the teachers of English from 1933. YMCA had already started organising refresher courses for teachers every year at Ootacamund. In Madras city, during the forties, short courses and evening classes were arranged from time to time. Some of these courses were held with an admission fee of Re 1/- for the whole of the course. The first course of this type was organised by Christian Literature Society and the two more were organised under the auspices of South Indian Teachers Union and Madras city teachers at St. Christopher Training College on payment of Re 1/- for the course. Dr. Alagappa Chettiar Training College, Karaikudi started the practice of extension lectures during those years. In U.P., a refresher course in General Science was held. In Bihar, the technique of organising refresher courses was improved. Elaborate syllabi were prepared and sent to teachers in advance. The idea was that those who come to refresher courses should have put in some work on the syllabus before hand. The attempt, however, was not very successful. During the year 1950, the University of Mysore organised a summer course in education for the college lecturers. This was organised by the Teachers College, Mysore. This appears to be the first attempt to provide in-service education to the lecturers of colleges. In Bombay, the Association of the Headmasters of the Bombay State with the cooperation of the Education Department organised a refresher course at Mahabaleshwar. A three week in-service course was organised at Jullundur.

This was the position of unco-ordinated and sporadic attempts being made by different institutions namely teachers colleges, universities, public institutions like YMCA or the professional associations like the South Indian Teachers Union, Madras Teachers Guild, and the Bombay State Headmasters Association. Though sporadic in nature,

such attempts were the pioneering work which created favourable climate for putting the programme of in-service preparation of teachers on an organised basis in future.

In 1949, the University Education Commission under the Chairmanship of Dr. S. Radhakrishnan, after visiting a number of teachers colleges and meeting a number of teacher educators, recommended:

> An urgent reform is the institution of vacation refresher courses for High School and Inter College teachers. At present neither students nor teachers utilise their vacation. For most of them vacation is the period of want of occupation. Most of our teachers do not keep intellectually alive, and there is little inducement for them to do so. It is extraordinary that our school teachers learn all of whatever subject they teach before reaching the age of 24 or 25 and then all their further education is left to experience which is another name for stagnation. We must realise that experience needs to be supplemented by experiments before reaching its fullness and that a teacher to keep alive and fresh becomes a learner from time to time. Constant outpouring needs constant in-taking, practice must be reinforced by theory and old must be constantly tested by the new.[7]

The Commission also recommended that the scheme of refresher courses could be made a real success if the authorities of schools and colleges and the Government Education Departments made certified attendance at university-refresher courses, one in every four or five years, a qualification for promotion.

In 1950, the first conference of the principals of th.

[7] *The Report of the University Education Commission*, 1949, (Govt. of India Press, Simla, 1949) pp. 95-96.

training colleges met at Baroda. A special committee of the conference on the organisation and administration of in-service teacher education recommended:

> To ensure the continued professional growth of trained teachers and to prevent their lapse into unprogressive methods, refresher course both general and special should be organised.[8]

The Committee recommended short courses for untrained teachers, refresher courses for trained teachers and special courses for those teachers who wanted to have any advanced training in a specific field.

In 1951, another medium of in-service preparation of teachers was suggested. The joint secretary of the Association of Training Colleges drew the attention of the conference to the suggestion regarding the institution of professional training through correspondence courses spread over a couple of years with a break but intensive training at the end. After the teacher-educators had discussed at length the elements of in-service education programme in India and its importance for two successive conferences, backed by some practical experience of in-service education in the field, came the recommendations of the Secondary Education Commission in the year 1953. The Commission observed:

> However excellent the programme of teacher training may be, it does not by itself produce an excellent teacher.... Increased efficiency will come through experience critically analysed and through individual and group efforts at improvement. The teacher training institution should accept its responsibility for assisting in this in-service stage of teacher training. Among the activities which the training college should provide

[8] *First Conference of Training Colleges in India*, Official Report of Proceedings (The Indian Institute of Education, Bombay, Nov. 1950).

or in which it should collaborate are: (1) refresher courses, (2) short intensive courses in special subjects, (3) practical training in workshop, (4) seminars and professional conferences. It should also allow its staff where possible to serve as consultants to a school or group of schools conducting some programme of improvements.[9]

In 1954, Government of India appointed an International Project Team to study the various steps and procedures needed for implementing the major recommendations of the Secondary Education Commission. One of its points of study was the in-service education of secondary school teachers. In their report, the Team said:

> We recommend that education departments consider ways and means of helping teachers to obtain in-service training and recognizing the improvement in their professional and academic qualifications by suitable salary increments.[10]

The International Team, as an immediate step, suggested:

> For teachers of technical, vocational and other special subjects who are already in service, but for those who have not been trained, we recommend short intensive courses in the theory and practice of education.[11]

The third conference of the principals of training colleges in India, in the year 1954, further discussed the programme of in-service education of secondary school teachers.

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[9] *Report of the Secondary Education Commission* (1952-53), Government of India, Ministry of Education, (Delhi-6: Manager of Publications, 1955) p. 137.

[10] *Teachers and Curricula in Secondary Schools*, Report of a Study by an International Team (The Ford Foundation, New Delhi, 1954) p. 5.

[11] *Ibid.*, p. 48.

The cumulative effect of these series of recommendations by various commissions and committees and the efforts of the professional association of teacher-educators resulted in the establishment of the All-India Council for Secondary Education in the year 1955. It was decided to start a well planned and well organised programme of in-service education of secondary school teachers through the establishment of extension services centres in selected training colleges in the country. The decision was a historical step taken in the direction of improvement of education in general and secondary education in particular. As is natural for a developing country the in-service education programme did not start from bottom but the decision was taken at the top. The programme of in-service education and its organisation was to trickle gradually to the lowest level in future. The central body namely the All-India Council for Secondary Education was entrusted with the work of giving guidance and assistance, financial as well as academic, to put this programme on a sound base in the initial stage.

Progress of In-service Education

The All-India Council for Secondary Education was set up as an autonomous body by the Government of India in the year 1955. The Council was entrusted with the task of organising such a programme as would improve the quality of education at the secondary level. The various programmes undertaken by the Council included the setting up of a machinary to develop and implement a sound programme of in-service education for secondary teachers in the country.

The Council established extension centres in twenty-four teachers' colleges in the country in 1955. The major objectives of these centres were to improve the professional

competence of teachers through a sound programme of in-service education and to stimulate a programme of school improvement. The reasons that led the Council to select the teachers colleges for implementing the programme were twofold. On the one hand it was assumed that the teachers college was the best available agency that could improve effectively the teacher competence by imparting a sort of continuous education in the field of instructional methods. Secondly, it was felt that the teachers colleges were getting isolated from the secondary schools and as a result the programme of teacher preparation was becoming unrealistic and outdated. There was an immediate need to bring down the teachers colleges from their 'Ivory Towers' and to place them in the midst of their clientele, namely, the secondary schools. It was expected that this would result in a two-way traffic between the schools and teachers colleges, the teachers and the teacher-educators. In-service education is also a phase of teacher preparation and as such it is only a continuation of pre-service education. Both the programmes, pre-service and in-service education, help the teacher grow professionally. It was, therefore, thought that the extension centres would form an integral part of the teachers colleges.

During 1957-58, more extension centres were opened in teachers colleges and the number of colleges organising extension programmes reached fifty-four.

In April 1959, the character of All-India Council for Secondary Education was changed. The Council was converted into an advisory body and its functions were taken over by the Ministry of Education, Government of India which implemented the programme through a new office 'The Directorate of Extension Programmes for Secondary Education (DEPSE). The transfer of the in-service education programme from an autonomous organisation to the

administrative machinery of the Union Government put the whole programme in a reverse gear. Educationists who were steering the programme through the All-India Council for Secondary Education relinquished their positions and the programme which had generated a great wave of enthusiasm began to lose its earlier appeal. Flexibility was sacrificed and the academic considerations were replaced by rigidity and administrative fiats. The in-service programme was still in its infancy and its growth was stunted under the new administrative set up. The new set up was very shortlived but it could do a great harm to a smoothly developing programme within the short period of two years and a half. In September 1961, a new autonomous organisation—the National Council of Educational Research and Training (NCERT) was started and the DEPSE became one of the departments of this new organisation. The major task before the NCERT has been to improve the quality of education in the country. The major functions of NCERT are training, research, and extension work in education. Under NCERT, a new push was given to extension programmes in education.

In 1962, fifteen more extension departments were established. With a view to providing extension services to rapidly increasing number of schools, smaller extension centres called 'Extension Units' were established in twenty-three teachers colleges during the same year. In 1964-65, four more extension centres were established. Thus the total number of colleges organising extension and in-service programmes in the country went up to ninety-six by 1965.

With more than one third of the teachers colleges providing extension services to secondary schools, a need was felt to undertake a proramme of research and investigations in the field of in-service education. The effectiveness of

various programmes, the techniques used, the changes brought about, etc. needed to be studied. An Extension Research Centre was, therefore, established in DEPSE to undertake such a programme. While the programme of in-service education was being put on a systematic basis through the establishment of extension services departments in secondary teachers' colleges, steps were taken to start similar agencies for organising in-service programmes for elementary teachers also. During the year 1962-63, the NCERT through its Department of Basic Education established extension centres in thirty elementary teacher training schools in the country. Subsequently, the number of such centres went up to forty-five.

In-service Education through Summer Institutes

The work done by the extension centres in the field of in-service education had created a good climate for such a programme in the country. Administrators and educationists agreed with one voice about the new climate created by such a programme. It was, however, felt that the scope of in-service education offered by these centres was restricted mainly because of the financial and personnel limitations. New developments had taken place in the field of science and mathematics. In-service education programmes of a longer duration required to be organised in these subjects and also in social sciences. The NCERT launched a programme of summer courses for the teachers in service. Summer institutes began to be organised from 1963 onwards for teachers and teacher-educators in different subjects. The duration of these institutes was five to six weeks. These institutes soon became very popular and began to expand year after year.

In-service Education in the States

Every attempt to improve education in India has to face the problem of enormity. The problem facing the programme of in-service education is one of extending this to about two million teachers and supervisors of schools. The Union Government can only undertake pilot projects to present models. It cannot set up machinery to extend the services to every nook and corner of the country. The responsibility for this rightly rests with the states. In 1964, with the support of the Government of India, State Institutes of Education were established in all the states in the country. One of the functions of these institutes has been to organise in-service education programmes for teacher-educators and supervisors of elementary schools. The states thus started to shoulder the responsibility of providing in-service education facilities to their teachers.

In some states, a few primary training schools were converted into institutions providing year round in-service education programmes to elementary teachers. In some other states, selected secondary schools were equipped to provide such a programme to primary schools in the surrounding area.

Besides the State Institutes of Education, Science Education Units and State Evaluation Units were also established in the states. These agencies offered in-service education programmes in specialised fields.

In-service education programme which was started on a small but organised basis in 1955, spread all over the country in one decade and extended itself to teachers—primary and secondary, teacher-educators, school supervisors and even the university teachers.

Issues in In-service Education

The assessment of extension centres undertaken during 1965-66 clearly showed the importance of in-service programmes in our efforts at improvement of the quality of secondary schools. The role of this programme cculd never be over-estimated. As with all other programmes, there are several issues here that are sufficiently challenging to warrant careful thinking. Some of the major issues in in-service education are discussed below.

(i) THE NEED FOR A HARD LOOK AT THE QUALITY OF PROGRAMMES: The first major issue in in-service education today is the need to have a closer look at the nature and quality of programmes being organised in the country. Even a cursory perusal of the reports of programmes organised by extension centres and other agencies reveals that there is greater emphasis placed on discussing methods rather than on understanding new developments in content. In-service education on methods of teaching is necessary. It can be justified, however, when the participants are untrained teachers or where the participants are trained teachers and new developments in methods of teaching are discussed. In the pre-service education programme, the teachers do get or are supposed to get a thorough know-how of methods of teaching. No such useful purpose is served by discussing the thing which legitimately belongs to the programmes of pre-service education. If a programme of in-service education discusses problems like team-teaching, use of mass media of education, programmed learning or any other new development in classroom teaching, it is justifiable. But today new developments in methods or content do not find sufficient place in in-service programmes. At present there is an accelerated development in content as compared to methods. Specially this is so with reference to the content

material in Science and Mathematics. Even in the teaching of English, there is new thinking in so far as the objectives are concerned and also in the content and methods used. These developments can revolutionise the instructional programmes of schools. The in-service education programmes organised through summer institutes or those organised by the Central Institute of English at Hyderabad concentrate on these developments. Unfortunately, the large number of extension centres and State Departments of Education have still not taken note of these developments in their in-service education programmes. Recently, a few teachers who had attended summer institutes for Mathematics and Science had an opportunity to participate in in-service education programmes organised by extension centres. These teachers found it difficult to follow the discussions in these programmes. They felt that the seminar seemed to undo what had been done by the summer institute. A few teachers of English also had a similar experience.

The major issue today is to organise the curriculum development programme through in-service education keeping in mind the new developments on the one hand and what is going on at the national level on the other. Unless the in-service education programme touches the curriculum with respect to content, our attempts to bring about improvement in schools are not likely to succeed.

There is another aspect of this problem. At the national level, as a result of studies and research, new programmes are being developed. Here a reference may be made to the new syllabus in General Science and the one in Social Studies developed by the National Institute of Education of the NCERT. These syllabi are the products of thinking by experts over a period of years. These are the tools which can be used to sharpen the edge of understanding of teachers teaching these subjects. It is not necessary that

these new programmes should first be accepted by the State Departments in order to warrant a programme of in-service education based on them. A discussion by teachers on these syllabi by itself will broaden the educational horizon of the teachers and may result in their increased ability to do justice to the teaching of these subjects in classrooms. Today we find the syllabi only decorating the shelves of the extension services departments and not forming an integral part of in-service activities.

(ii) RESOURCE PERSONNEL: The second major issue in in-service education is the type of resource personnel employed by extension centres in their programmes. Mostly the resource personnel come from teachers colleges. It is an accepted fact that teacher-educators are in need of re-orientation. They have not been able to keep in touch with new developments in content and even, in many cases, in methods. These resource personnel do not go further than they have done in the pre-service education programmes. We refer here to the content of discussions led by these resource personnel. As far as their own methods are concerned, I mean methods of handling seminars, there is a tendency to adopt the usual lecture approach—an approach that is not suitable in in-service education programmes with small groups of participants. Result is that the same hackneyed stuff is doled out using a method that is not in tune with the spirit of in-service education programmes. There is a minimum involvement of the participants reducing further the little possibility that exists for a carry over to the classroom situations. This generates unfavourable reactions amongst the participants. A few enlightened participants, some time ago, pointed out that it was no use entrusting the administration of in-service education programmes to teachers colleges which could not develop even a good pre-service education programme. The issue here is the need to identify

the right type of resource personnel for in-service education programmes.

(iii) WHO WILL ADMINISTER THE IN-SERVICE PROGRAMME? The third major issue in in-service education is regarding the agency that should be entrusted with the responsibility of organising such programmes. Today, extension centres are invariably located in teachers colleges. The State Departments of Education, through their specialised agencies, also organise in-service education programmes. As regards the in-service education programmes organised by extension centres attached to training colleges, some basic issues have come to the surface. The training colleges are not charged with the responsibility to improve schools. This has been the responsibility of the State Departments of Education and their District Education Officers. In spite of all attempts to know the real needs of schools through advisory committees, we find that the programmes are planned by the teachers college faculty, if not by the co-ordinators or the honorary directors only. There is a tendency to decide upon a programme keeping in mind a particular resource personnel or the availability of some resource personnel from the teachers college faculty and consequently these programmes do not meet the needs of individual schools.

Again, it is not physically possible for an extension centre to know the real problems of schools. This is neglected because the training colleges have no responsibility to improve schools. Only the office of the District Education Officer is in a position to know the needs of schools and teachers because it undertakes the work of inspection and supervision. If school improvement is the administrative responsibility of the District Education Office, it is worthwhile to experiment by locating the in-service education agency in the office of the District Education Officer.

It is argued that the offices of the District Education Officers are heavily overburdened with administrative work. But so are the training colleges overburdened with pre-service education programmes. We have already entrusted the in-service education in Science to the State Departments by establishing Science Education Units in their offices. We have also entrusted the in-service education programme in examination improvement to State Evaluation Units in the offices of the Directors of Public Instruction. If the National Institute of Education has to play a concrete role in bringing about change in the right direction in our schools, it must face this problem and not run away from it by by-passing these agencies. The role of the State Departments of Education and the offices of the District Education Officers in imroving our schools must be accepted as vital and supported further by opening in-service education agencies in their offices. This can be done on an experimental basis in at least one district in every State.

(iv) Involvement of State Departments of Education: The involvement of State Departments of Education in the programme of in-service education was negligible at the earlier stages. Of late, some efforts have been made in this direction with some success. Still, this involvement is not of a significant nature. What is required today is to bring about the maximum involvement of the State Departments of Education into this programme of school improvement through in-service education by helping them to set up departments of in-service education in the State Directorate and helping them both through financial and academic assistance. Unless a bold step is taken in this direction we may find that the efforts of extension workers will become fruitless. Today, in a number of states, there are Guidance Bureaux, Evaluation Units, Curriculum and Research Bureaux, Audio-visual Departments, Science Units,

English Language Units and so on. These are some of the agencies aiming at the in-service education of teachers. Given proper guidance and support, these agencies can build up a strong in-service education programme in the states, co-ordinated with the programmes of extension centres located at the offices of district education authorities. Such a programme can yield concrete results. The issue today is to take a bold step to integrate these agencies into a major department of in-service education in the state.

(v) TRAINING IN-SERVICE EDUCATION WORKERS: One more issue in in-service education is the acute dearth of trained personnel. The programme of in-service education requires persons trained in extension techniques. Extension is a skilled and specialised job. Today it has been taken for granted that anybody from a teachers college can be an extension worker. This is not true. Like all other specialised fields, extension education is a special field requiring personnel specially trained for it. Such personnel are lacking at all levels, right from the extension centre to the national level. There is a need to develop a good training programme for extension personnel from all departments, including those of the National Institute of Education engaged in in-service education work. They require substantial training in the techniques of extension education. The case for this is more elaborately put by Dr. Leonard in his paper.

Conclusion

The formal establishment of the programme of in-service education through teacher training institution was a revolutionary innovation in the field of education in general and teacher education in particular. When we look back to all the recommendations made by various committees, commissions and organisations, we see that there has been a time lag

of more than forty years between the origination of the idea of in-service education and the actual implementation of the same. Forty years is no doubt a long span of period but if one considers that the country was ruled by foreign rulers upto 1947 and when one also considers that the foreign rulers were not specially interested in providing good education, it appears that this innovation of in-service education could not be said to have taken a long time for implementation. This is further supported by the fact that teacher education by itself had not developed considerably during this period. Till, 1908 there were only three colleges of teacher education in India and the number went to thirty seven by 1945. Within these years there was an increase of only thirty-four training colleges in India whereas between 1945 and 1967 the number has increased from thirty seven to two hundred and eighty approximately.

There are special reasons accounting for the early implementation of the programme of in-service education in India. The major reason was the anxiety on the part of an independent country to expand the base of education on the one hand and to provide quality education on the other. The Government of India took early steps to improve the quality of teachers. Actually between 1947 and 1954, two commissions were appointed and many of their recommendations were implemented. This is a major factor in the establishment of in-service training programme in India.

The second factor was the acceptance of the idea that extension activities were as much useful in education as they were in other fields like agriculture, industry or community development. The agricultural extension had already proved useful and effective in the U.S.A. The success of the experiment of extension services in the field of agriculture in U.S.A. stimulated the Government of India to start large scale programme of extension education in the field of agriculture in

t he year 1952. This decision to start extension activities in the field of agriculture based on the success of similar programme in U.S.A. also influenced the administrators to start a similar programme in the field of education. The educationists from U.S.A. working with the Government of India were also instrumental in creating a climate which led to the origin and development of in-service education programme in India in 1955, and its establishment on an organised and institutional basis.

XI IN-SERVICE EDUCATION OF COLLEGE TEACHERS

D. M. DESAI

Introduction

There is no denying the fact that the awareness for the need of in-service education for secondary teachers grew only as a result of the recommendations of the Mudaliar Commission. Fortunately for secondary education, an operational agency to implement the programme of reconstruction recommended by the Commission was created by the Union Ministry of Education. This agency, newly pressed into action, was the All-India Council for Secondary Education. The AICSE established departments of extension services in some selected colleges of education. A vigorous programme of in-service education of secondary teachers was launched upon by these departments. The innovation had been significantly facilitated by the assistance in kind, money and personnel made available to the AICSE by the Ford Foundation and the Technical Cooperation

Mission of the United States. Another contributing factor to the development of this new movement was the fact that the number of schools and trained teachers at the secondary stage to be helped through the in-service programme was small and it was not intended to cover the entire community of secondary school teachers. The fact of vast bulk was mainly responsible for delayed efforts to organise in-service education for elementary teachers. The latter began to have some kind of in-service education only during the Third Plan period and particularly after the creation of the State Institutes of Education in the states of India. As regards the in-service education of college and university teachers, the realization of such a need is a very recent development and even then it is still on the surface and not clearly articulated. The idea of in-service education for teachers of post-secondary and of higher education is yet to be sold to college and university teachers. There operates considerable resistance to the very ideology of training for college teachers (1). This needs to be successfully broken down if this innovation is to be made a *fata compli* at the university stage.

Possible Causes of Resistance to the Idea of Training for College Teachers

The in-service education for college and university teachers can take the form of both enrichment and modernisation of their knowledge in the 'content' area, and theoretical orientation as well as practical training to be provided to them in putting across the instructional or and training programme offered by their institutions. There is a clear need indeed to cover both these aspects of matter and method in the in-service education programme of college teachers; the need for the latter aspect, i.e. training in the teaching craft, has assumed greater significance and urgency in recent times.

And the opposition that is there for the in-service education of college teachers is particularly in regard to the latter aspect. There are several possible explanations for such unhappy antagonism to a noble and extremely useful idea. A few arguments that the author of this paper has encountered from college teachers and administrators against the professional training of college teachers are summarised below. They provide pointers to the nature and dimensions of resistance to the in-service training programme for college teachers. Any programme of in-service education of college teachers which is expected to succeed should take note of this kind of thinking prevailing among college teachers.

1. In the past, for a full hundred years, we never felt the need of training teachers of colleges. Even then India could produce mighty university teachers who did not go to a training college to learn their craft.

2. The famed universities of Oxford, Cambridge and London did not even for once in their long distinguished history, feel the need for training their lecturers and professors and they have been doing, since they are instituted, an excellent job.

3. 'General education' for college teachers is of far greater significance than 'professional training'. What is taught under the head of methodology of teaching is of questionable benefit to the college teacher. Its value is exaggerated by most training college people, in comparison with good general culture.

4. College and university teachers are, generally speaking, persons of great ability and some of them even of original ability. It may be that special training in the teaching craft would not add much to their

practical efficiency; they will find out their own methods and use them with success(2).

5. The university or the college itself is a great in-service professional training experience rather than a normal college of education for the college teacher who has generally a well informed, mature and sensitive mind.
6. The college teacher, unlike the school teacher, has to work with mature minds of students. It is more of clash of minds rather than the training of students' minds by college teachers.
7. To require college teachers to undergo training would lower their status to the level of school teachers, and the dignity and grandeur of colleges and universities will be lost.
8. No where — even in the leading universities of Columbia, Harvard or Chicago, do they have a full-time training programme for college teachers. College teachers need not be placed on the same plane as secondary school teachers and need not be subjected to the rigours and intensity of the current B.Ed. or M.Ed. programmes(3).

These kinds of arguments and thinking one ordinarily encounters in the university circles against subjecting the college teachers to the rigours and intensity of training in teaching craft. The class of university teachers and administrators who believed that like poets university teachers are born and they need no training whatsoever has been fortunately diminishing. Despite this happy turn, it is a fact that very little has been done by the universities, the U.G.C. and the association of college teachers to break the resistance against the training of college teachers, which is more the result of misguided beliefs and inertia.

The Concept of In-service Programme for College Teachers

One of the best means of breaking the resistance of college teachers and administrators is to clarify the concept of in-service programme at the college stage and publicise it widely among them through faculty meetings and staff discussions. The present opposition to the training of college teachers stems from two kinds of misunderstandings about the programme, viz., that all university and college teachers — junior members as well as post-graduate teachers and teachers of long standing and high qualifications — are to be exposed to the rigours of training, and that training is to be formal of the type of the present B. Ed. or the M. Ed. courses being offered by colleges of education. The current concept of in-service education for college teachers is based on the idea of professional growth which would be relative to the professional needs of college teachers of different categories and standings. For instance, the in-service training of fresh junior lecturers would differ materially in the nature of the programme, duration and even the methodology than the one of post-graduate teachers, researchers, heads of the departments and even the deans. In their case, the programme would be more in the form of professional meetings of equals, sitting together across a table and sharing one another's thinking and experiences on subjects of common interest, or participating in work-groups or task-forces trying to size up common problems and developing suggestions or action programmes for tackling effectively their problems. The problems may be academic or administrative or both. Even profound scholars and great researchers need to check up occasionally or from time to time certain pertinent points related to their subject with co-workers in the field. The conventions of subject teachers in arts and science disci-

plines, of teachers of professional education like engineering, medicine, teacher education, etc., the conferences of principals of colleges, of university administrators are all in-service or in-position programmes of professional growth or education. The programme of summer camps or of summer institutes recently launched by the U.G.C. for college teachers is another kind of in-service programme. University and college teachers have accepted summer institutes sponsored by the U.G.C. without any opposition. Some universities like the Sardar Patel University in Gujarat had organised some time back a series of seminars-cum-workshops for teachers of university departments and of affiliated colleges on imporving the design and content of university examinations; this is another type of in-service education programme for college teachers (4). It seems necessary to spell out distinctly the in-service training programme for beginning junior lecturers, tutors and research fellows on the one hand, and for the college teachers of long experience and standing on the other. If the professional needs of these two broad categories of college and university teachers are properly figured out and appropriate in-service programme for them is developed, it will be possible to sell the idea of in-service education at the university stage.

Some Recent Developments in Training College Teachers

It must be said that the awareness to provide some kind of training at least to fresh and junior college teachers has been steadily growing. The mounting pressure of numbers in colleges and university departments has resulted in crowded classes. Out of sheer necessity, the college administrators are forced to recruit fresh young men who satisfy the minimum conditions of universities for appointment as lecturers

in colleges. The affiliated colleges, in the light of their precarious financial sources, cannot afford to pay handsome salaries to attract the experienced college teachers. The following observations by our eminent educationist Dr. A. Lakshmanswami Mudaliar, made during his lecture series under the Dadabhai Naoroji Memorial Fund Prize Scheme, correctly describe the situation which is true for many of the affiliated colleges:

> Are we not aware today, that most of the colleges are manned by junior members who have not had experience and who certainly have not got the leisure to make themselves thorough with the subjects and who cannot by any means therefore command the amount of attention from students which they must of necessity have, if they are to prove themselves worthy teachers? Is it not a fact that in many of the colleges, persons within a few years after passing, find themselves as heads of departments? (5)

The following statistical picture of the high rate of expansion of higher education in the post-independence era would help one in catching the significance of the remarks of Dr. Mudaliar quoted above. Between 1950-51 and 1965-66, enrolments at the under-graduate stage in Arts, Commerce and Science in Indian Universities have increased from 1,91,000 to 7,59,000 or at an average annual rate of 9·6 per cent (6). In professional education, enrolments at the under-graduate stage have risen from 50,000 to 2,27,000 which shows an average annual increase of 11,800 (7). The forecast of possible increase of enrolments at the under-graduate stage in Arts, Commerce and Science in 1985-86 is 2·2 million. Thus, between 1965-66 and 1985-86, the enrolments at the under-graduate stage in these disciplines are expected to rise at an average rate of 5·3 per cent (8). The projected increase in professional education during the

same period is from 1,95,000 in 1965-66 to 9,72,000 by 1985-86, or at an average annual rate of 8·4 per cent. Thus, the present period and the next two decades ahead would find so great and rapid expansion at the under-graduate level that it is likely to outstrip the facilities available in respect of staffing and equipment in affiliated colleges. The recruitment of fresh lecturers would, therefore, continue to pose problems. The Kothari Education Commission also provides testimony to the prevailing practice among the college administrators to assign the youngest and least experienced staff members to teach under-graduate classes. "Some of them have neither the stature nor the experience nor the poise to win young men and women effectively to the pursuit of knowledge" (9).

The recognition of the need for training fresh college teachers has been recently in evidence and is growing steadily. To cite only a few examples, in the Memorandum that the Government of Gujarat had submitted to the Education Commission, it was stated:

> "The idea of giving training to college teachers seems rather new but it has been found by experience that such training is essential if the college teachers have to do their job really successfully. With the rapid increase in the number of colleges the demand for college teachers has increased considerably. As a result of this, fresh graduates who are hardly twenty to twenty-two years old become college teachers and teach classes right from pre-university to Third Year B.A. Although a regular training course like the B.Ed. may not be necessary, some kind of orientation would certainly prove to be useful to the college teachers"(10).

The recognition of training for junior lecturers by universities is also in evidence. For instance, the Syndicate

of the M. S. University of Baroda passed a resolution in January 1965 to consider a programme of giving training to young lecturers of its various faculties regarding the methodology and techniques of teaching(11). A scheme of training junior teachers of the University was consequently drawn up (12), which was later on submitted to the U.G.C. as a pilot project for financial support. A healthy precedent has been created by the U.G.C. in agreeing in principle to give financial support for organising the seminars on methodology of teaching for junior college teachers(13). The M. S. University of Baroda has taken a vital step in this respect by resolving in June 1966 that "for the new teachers appointed hereafter their participation in the seminar on Methodology of teaching be considered necessary during their period of probation"(14). The Baroda University has also provided for holding the seminar in the summer vacation and for the proportionate privilege leave to the participating staff as well as the teacher-trainees for attending the full-time course in the seminar. This clearly shows that some of the progressive and dynamic universities of India have realised the need for helping the new lecturers to equip themselves in the methodology of teaching college classes.

The Kothari Education Commission (1964-66) too has made some vital recommendations for the pre-service and in-service training of junior college teachers. They include, among others, the pre-selection of their new teachers by affiliated colleges and universities and attaching them to the major universities for about a year for orientation towards their chosen profession (15), giving post-graduate students after their first year some experience of teaching at the under-graduate stage(16), the development of teaching methods by schools of education that can be effectively used in colleges and universities(17), orientation courses of a few weeks for junior lecturers(18), in-service guidance and counselling

through demonstration, individual conferences and group-discussions by senior colleagues(19), the inter-change of visits to the classrooms while the teaching is in progress, by the heads of the department or senior colleagues and junior teachers to study their methods of teaching and ways of handing their subject (decided through mutual consent)(20), and the establishment of a staff college in the bigger universities or a group of universities, to place the in-service training programme for junior lecturers on a permanent and continuing basis(21).

The Commission has observed that devoted scholars teaching in colleges or universities may be able to discharge their functions satisfactorily—though this is not always a safe presumption—in spite of professional inadequacy. But, they have also said:

> The bulk of teachers unfortunately do not fall into these categories (i.e. of born teachers and devoted scholars). For them some suitable form of training and orientation is essential, not only to overcome their initial 'teaching' troubles and to create a sense of confidence, but also to give them a reasonable understanding of educational objectives and purposes, the *raison d'etre* and place of their special subject in the curriculum, of new methods and techniques of teaching and learning, and a knowledge of psychology on which good teaching should be based. No question of *amour propre* should be involved. In most highly skilled profession—and education is certainly one—training is regarded as an essential qualification(22).

Orientation Programme for Junior Lecturers

The excerpt cited above from the Report of the Kothari Education Commission clearly testifies to the need for organising

orientation programmes for junior college teachers in college teaching. The author of this paper, in collaboration with Dean M. S. Patel, of the Faculty of Education and Psychology, Baroda University, prepared some time back a proposal for training young university lecturers, assistant lecturers, and so on. The programme is presented below just to serve as an illustration of orientation in-service programme for junior college teachers (23).

OBJECTIVES OF THE PROGRAMME: The following are the specific objectives of the programme of short term training for junior college teachers.

(1) To orient the junior university teacher in the needs, interests and problems of the college students of the age-group 16-17 to 19-20.

(2) To help him develop skills in the techniques of teaching, tutorials, seminars, workshops and evaluation at the college level.

(3) To help him improve his ability to communicate effectively in the classroom, use audio-visual materials and techniques in his regular teaching, ensure better student participation in the teaching-learning process, provide better guidance to students in library reading and self-study and thus improve his impact on the student's learning and all-round development of his personality.

(4) To introduce him to techniques of action research and small-scale experimentation, so that he may handle more effectively the problems of teaching and learning and deal with some categories of behaviour problems, improve his sensitivity to students' needs and get some evidence regarding the effectiveness of his own teaching procedures.

(5) To provide him with a broad understanding of some current problems and trends in Indian education in world perspective, so that he may understand his role as an educator more fully and play it more effectively.

SIZE OF THE GROUP: In order to safeguard the effectiveness of the training programme, the enrolment should not exceed thirty at a time. It is also desirable that participants are drawn from different disciplines so as to provide a variety of training situations.

DURATION OF THE PROGRAMME: It is felt that six-week training with a three hour session each week day in the evening and a few class visits for demonstration and observation each week during the working sessions, should prove adequate.

THE ORIENTATION PROGRAMME: The course contents of the training programme may be spread over eight main areas, which will be as under:

1. Psychology of adolescence and of learning	18 hours—(10 hours theory, 4 hours for practical work and 4 hours discussion)
2. Techniques of teaching at the college stage	18 hours—(12 hours theory, 6 hours for demonstration and discussion)
3. Special field	18 hours—(12 hours theory, 6 hours discussions)
(i) Audio-visual education	
(ii) Educational evaluation	
(iii) Education of the gifted and the backward students	
(iv) Guidance and counselling	

4.	Current issues and trends in Indian education in world perspective	13 hours—(7 hours theory and 6 hours discussions)
5.	Methodology of research and elementary statistics	13 hours—(7 hours theory and 6 hours practical work and discussions)
6.	Techniques of conducting tutorials, seminars and workshops	5 hours
7.	Practical work will include manipulation of A. V. devices, effective exposition, techniques of note-taking, fast reading, setting better questions, etc.	18 hours
8.	Professional ethics and human relations	5 hours
		Total 108 hours

PROCEDURES AND METHODS: In developing the procedures and methods of conducting the training programme, two essentials should be fully met with, viz. (1) focus on the felt needs of the participating college teachers, and (2) the balance of activities.

(1) FOCUS ON THE NEEDS OF PARTICIPANTS

It is envisaged that a major incentive for the junior faculty members to participate in the training course will be the

opportunities it provides for them to focus on problems that concern them, problems that they are facing day-by-day in their college teaching. The theory and practical work planned for the training course should be viewed in relation to these problems. Thus, efforts will be made during the first week of the training programme to identify such problems through

(i) self-analysis by participants,

(ii) individual conferences with participants, a staff adviser and the participants' department chairman or immediate supervisor, and through

(iii) group discussion.

(2) Balance of activities

The programme will be so planned that the activities will be balanced among theory presentation, group discussions and practical work.

Conclusion

In the light of the mounting enrolments at the undergraduate stage in our universities, the recruitment of fresh first class graduates or holders of first class or second class masters' degree in colleges and university departments will continue to pose problems of standard of college education and of student management and discipline. A bulk of these new recruits will not be born teachers or profound scholars to whom the method of teaching and dealing with students will reveal itself. The young lecturers would need in-service professional orientation or training. The young lecturers should be confronted with actual evidences, gathered through exploratory studies or surveys and research regarding some of the inadequacies of classroom teaching in colleges, problems being continually faced by new teachers in class management,

student discipline, class teaching, ensuring student participation in learning, conducting tutorials, making and assessing examinations, etc. and such other areas of concern to them. A review of research on experimentation of college teaching should invariably form the part of such a training programme. A productive interrelationship between theory and practice should be worked out. In developing an effective in-service training programme for college teachers, the cooperation of the key persons in different faculties of a teaching university or in a group of neighbouring colleges in an affiliating university would be crucial. Plans should be worked out to involve heads of departments or senior teachers in an informal way to identify or spotlight the inadequacies of teaching now going on in departments, so that steps can be taken to gear the programme of training to meet these needs.

Some attempts for developing training programme for college teachers have been made in some leading American Universities(24). For instance, at Teachers' College, Columbia University, they have developed during past several years, an Ed.D. degree programme designed to produce college teachers. Some programmes in teaching fields such as "College Teachers of English", "College Teachers of History", etc., have been developed, providing a combination of work in the field of specialization and in method of college instruction. At the University of Michigan, (Ann Arbor, Michigan) a Centre for Higher Education has been operating for about ten years. Its programme includes training, seminars and other arrangements for upgrading teaching followed in English and other areas.

It is now time that Indian universities move effectively towards providing in-service orientation or short-term training courses or setting up staff training colleges for junior college teachers, and organising summer camps, summer institutes,

seminars, workshops, etc., and facilitating their senior and junior teachers in participating in their programme as well as in conventions and meetings of subject teachers and researchers. If guidelines on how to lecture effectively, how to prepare reading assignments, how to conduct group discussions and tutorials(25), how to set examination questions, how to prepare different varieties of objective tests, how to assess examination answer books reliably, and how to summarise, interpret and make use of examination results, are prepared by universities and if such literature is placed in the hands of all college teachers, a step of far reaching consequences will be taken in the in-service education of college teachers.

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XII IN-SERVICE EDUCATION OF TEACHER-EDUCATORS

R. N. MEHROTRA

The Need

It has been said by many people that our training colleges and departments of education are not richly staffed. Many of the teacher-educators working in these institutions are perhaps suitably qualified but they are said to be of a poor calibre. Some of them have had quite a mediocre academic career before coming to the teachers colleges. And, of course, no teacher-educator has undergone a prescribed training course in his work. They most often act as they were acted upon while they were student-teachers taking a pre-service training course in some training college. In various aspects of the training programme, e.g., supervision of practice teaching, discussion of lesson plans, conducting tutorial meetings, assessment of the various parts of the course,

lecturing in the classroom, they are guided by the experience they had gone through during their student-teacher days.

The expanding knowledge in every field of study, various new practices in schools, the philosophies of education, the psychology of learning and the historical and cultural forces working on education are influencing the activities in a teacher education programme. These three main bases, i.e. poor quality of teacher-educators initially, no pre-service training programme for teacher education, and thirdly, the continuous expansion of knowledge in the field, necessitate thinking of the programmes of in-service education of continuous professional improvement for teacher-educators.

A Set Curriculum

It may, however, be said in the very beginning that the above discussion does not imply the essential need of a set, definite curriculum for the training of teacher-educators either pre-service or in-service. The teachers working in various departments of any university do not get any training in their work. Not that they would not have done better work if they had some training. But it has been believed all along that a scholar with his zeal and devotion to his area of study and with the formulations of healthy interest in and commitment to his job, would be able to make his students in a university class enthused and stimulated for knowledge. What is expected of a university teacher is that he never ceases to be a student himself. He should continue to grow professionaly, continue to read and be up-to-date regarding his field of study and continue to do research in the areas which have not been explored earlier. Nobody has yet talked about an in-service programme of a long duration leading to a certificate or diploma or a degree for a university teacher. The issue of education of the

personnel working in teacher education departments should also be considered from the same angle. Chalking out a curriculum of six months' or nine months' duration which would ultimately give them a diploma or a degree would not improve matters very much. There is no dearth of degrees in our country. People go on improving their qualifications by collecting more and more degrees. They may not necessarily be the best persons or better persons than those who do not have many degrees. This may, therefore, be made very clear in the initial stages in our thinking about the programme of in-service education of teacher-educators that we should not plan any pre-service or in-service full-time courses for them, leading to the accumulation of another certificate or degree.

The Means

How then do we improve the quality of teacher-educators in our country? It is hoped that the teacher-educators would be interested in their own professional growth and therefore if we make suggestions for their professional growth (incidentally, a more desirable phrase than 'in-service education'), it would be better. Any monetary or other incentives need not be devised. The idea of 'professional growth' may have an added advantage as teacher-educators by and large form a sensitive group and they have developed a psychological resistance to what may be termed 'experts'. Rightly or wrongly they are very allergic to somebody else who is imposed upon them as someone who knows more than they do. Essentially they are traditional and very resistant to any change. In view of this, any programme suggested for the improvement of their professional work may be made with great caution.

It has been the opinion of many people that the staff of

a training college should possess double master's degrees one in a school subject and another in education. In addition, a good number of them should go in for Ph.D. degrees. It, therefore, may be suggested that the teachers in a teacher education institution should be encouraged to work for double master's degree and for Ph.D. It means that those who are M.A.,B.Ed.s may be encouraged to work for M.Ed. degree and those who are B.A., M.Ed.s may work for an M.A. degree. For this purpose they may be given various facilities like study leave, permission to join part-time courses, reducing their work-load while they are working for a degree, helping them with suitable books and other material that may be required for their work, etc. Nothing should stand in the way of those teacher-educators who wish to work for obtaining another master's degree. Those who are M,A., M.Ed.s should be encouraged to get registered for Ph.D. work. They may be provided with guidance, with leave for collecting their data and may be given sympathetic consideration regarding their work-load, etc.

Some suggestions may be made in the modification of the M.Ed. programmes. It should be expected that the teacher-educators when going in for an M.Ed. degree would continue to remain teacher-educators. There should, therefore, be an opportunity, and in a way a compulsion, for them to specialise in teacher education. Syllabus in a paper on teacher education may be made more practical. Only theoretical knowledge about teacher education programmes should not suffice. Various types of practical work and detailed discussions of the various parts of a teacher-educator's work should be looked into and detailed guidance given. While they are M.Ed. students, they should get an opportunity of supervised lecturing, supervised practice-teaching, paper-reading, etc. I would suppose that this should not create any difficulty regarding its implementation.

Nothing improves anybody or any person better than exchange of ideas with those who are also working in that field. It would, therefore, be very effective if opportunities are provided for teacher-educators to meet themselves as and when it is possible. A central agency may take upon itself the responsibility of organising such meetings. Teacher-educators with the same areas of interest may meet together, often without any 'resource personnel' or 'experts'. Many among themselves may prepare good working papers which would form the basis of their discussions. Some of them may take upon themselves the responsibility of reading up some latest literature on a particular theme and presenting the main new trends to the other participants. Meetings like these, carefully organised, would very much help everyone. Great care should be taken in their organisation lest the participants go back cynical or sceptical about the utility of such meetings.

Ad hoc programmes for the teacher-educators may also be organised from time to time. Whenever there are any innovations or remarkable changes in some aspects of teacher education programme anywhere in the world, some of those who have studied them or have got a good insight into them may be invited to introduce them to teacher-educators. The teacher-educators, I hope, will always accept a teacher who by his scholarship and behaviour would command respect. The resource person at a teacher-educators' meeting may not be occupying high position in any department or university. The present practice of using the position of 'resource-person' for honouring or pleasing people in a higher stage in administrative hierarchy may be completely given up. The mutual give and take that happens between the heads of different administrative set-ups need not be stuck to. Nobody becomes a better scholar or better teacher-educator just because he or she occupies a principal's position

or head of the department's chair. Only those persons should be invited to work as experts in a group of teacher-educators who command respect by virtue of their research abilities, their reflective powers and their careers as scholars and teachers regardless of what positions they occupy.

A very convenient unit for professional growth of teacher-educators would be the teacher education institution itself. The staff of a teacher education institution can help the growth of each other by themselves in a number of ways. They may constitute themselves into a professional study circle or association. They should then have regular meetings of their study circles. These Circles should not be there only for the sake of a show. They should really be taken very seriously and the various members of the staff may by turn take the responsibility of initiating discussions on certain issues, that should result in the professional growth of their colleagues. The meetings of these circles should be given all respect by the heads of the departments/principals, etc. They should themselves make it a point to keep themselves free for such meetings and attend them.

Many times informal discussions prove extremely valuable. It is a pity that much of the talk in the staff rooms always pertains to mundane matters and not to any important issues of academic interest.

Nothing improves a teacher more than self-study. A teacher should continue to study more and more in his area of interest. In fact his reading interest should not be confined to only the pedagogic science but may be widened to read the current literature, classics, fiction, etc. In this context it may be suggested that the staff may be given all facilities for self-study. They may not be bound down to routine work so much that they do not have any time for reading on their own. They may be allowed to be away from their

place of work for self-study if they like. It may happen that this facility may be misused but even if one out of ten on the staff of a college make good use of this facility, they would improve themselves and in turn improve others. Secondly, a full year's leave after working for five or six years in an institution may always be given. This will free the person from his routine work for a year and will make a member refresh and up-date his knowledge and widen his scholarship. Schemes may be devised by which members of the staff may be given a fortnight or a month's leave to go to another institution where there are good library facilities. Just to foster the spirit of trust they may not be required to submit any report of what they do during this fortnight or month.

It may be noted that the whole stress in my article regarding suggestions for the in-service education of teacher-educators is on self education. If there is any problem that needs to be discussed, it is 'how to improve the academic tone, climate or atmosphere in a teacher education institution, as in any other institutions of higher learning. It may be reiterated that no set curriculum may be devised or chalked out. Ad hoc programmes and facilities for mutual exchange of ideas and for self-study should go a long way in improving the quality of teacher-educators.

SECTION FOUR

IN-SERVICE EDUCATION: ROLES, RESPONSIBILITIES, AND TRAINING

Once it is accepted that the opportunities for in-service growth are necessary, the problem of roles and responsibilities arises. Education being a public concern, the major responsibility could be said to be of the State Departments of Education, Universities and other institutions of higher learning, or the local foundations or trusts controlling educational institutions. However, the main actor in this whole enterprise is the Teacher and the worth and significance of any programme of professional growth depends upon his motives, attitudes and interests. The institutions play a mere instrumental role in providing a formal set-up in which in-service learning can take place. But they do have some responsibilities in the form of motivating the teachers for professional growth, assessing their needs, organizing meaningful programmes, and collecting right type of experts or resource personnel who are capable of delivering goods. In the foregoing sections, the roles of different agencies have been incidently referred. Dr. Leonard briefly referred to the role of the National Institute of Education; Fishback discussed at length the roles of administrators and teachers.

In this section the first three papers deal with the roles of different agencies, and the other two with the training of the extension or in-service

education workers. Dr. Palsane tries to define the roles and responsibilities of the various institutional agencies such as, National Institute of Education, University Grants Commission, Universities, State Departments of Education, State Institutes of Education, teacher education institutions and professional organizations for in-service growth of teachers. Dr. Wahle specifically discusses the role of the supervisor in a school as director of in-service education. Dr. Stank describes the role of an administrative authority within an institution in the in-service professional growth of its own staff. He emphasizes the responsibilities in terms of creating favourable atmosphere, helping people to define problems, providing facilities and finances and seeing the whole programme through in a planned and systematic manner, depending completely on democratic approach. Dr. Chitra Naik discusses the content of the extension programmes, the role of the extension worker, the different categories of extension workers and their training, and the organization of training. Her plea for a national approach to the whole problem is appealing to those who do not favour importing of disjunct ideas and apparatuses which do not fit into our system and culture. Mr. Surendranath emphasizes the need for training extension workers, defines elaborately the different roles and responsibilities of an extension worker, and highlights primarily four areas of his training, viz. (a) leadership training, (b) training in human relations, (c) training in motivation, and (d) training in group dynamics.

The papers in this section unanimously point out one fact that the responsibilities of an extension worker are diverse and complex, and systematic training for carrying these out successfully is necessary. Unless all the agencies concerned join hands in co-ordinated manner and undertake this as a cooperative venture, the task of uplifting the professional level of our teachers seems stupendous.

XIII ROLES OF DIFFERENT AGENCIES IN THE IN-SERVICE EDUCATION OF TEACHERS

It is now recognised that in-service education of teachers occupies a crucial place in our efforts to bring about significant improvements in education. The task of promoting in-service growth amongst teachers is too significant and vast to be left to any one single agency. It requires the concerted efforts on the part of a large number of agencies and institutions engaged in the task of improving instruction in schools and providing for professional growth of the teaching personnel. Such agencies include teacher training institutions, supervisory staff of the State Departments of Education, State Institutes of Education, professional organizations, universities, University Grants Commission, etc. These agencies have to organize various types of in-service programmes to meet varying needs of teachers. Moreover, all these different agencies have to come together and plan jointly in a systematic manner, taking into consideration

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M. N. PALSANE

the resources and priorities, so as to avoid duplication and waste. A co-ordinated and cooperative endeavour can result in tangible outcomes in a reasonable amount of time. What role can each of the different agencies play is a matter of discussion, and the following may be treated as one point of view.

Teacher Training Institutions

Teacher training institutions in India were the first to assume direct responsibility to organize systematic in-service education for teachers. This was made possible with the setting up of extension services departments. The first attempt in this direction was made when the All India Council for Secondary Education sponsored the setting up of extension services departments in twenty-three secondary teachers training institutions in 1955. This step was taken on the basis of a major recommendation of the Secondary Education Commission. The number of extension services departments has been since then expanded to over one hundred in the secondary training colleges, thirty in the primary teacher training institutions and fifteen are located in the State Institutes of Education. These extension services departments organize in-service programmes for teachers through short courses, seminars, workshops, study-circles, etc... They receive financial support from the Central and State Governments and the National Council of Educational Research & Training.

Three important reasous for the choice of training institutions in developing such programmes of in-service education are:

(i) They are engaged in the task of teacher preparation at the pre-service level, so they would naturally

have the advantage of understanding the background of teachers immediately after the initial training.

(ii) They have the qualified staff to impart the required in-service training.

(iii) The teacher training institutions themselves would get vitalised through live contact with schools through the programme of in-service education. The constant flow of ideas from the field would also enrich the programme of teacher preparation at the pre-service level.

No doubt, these extension services departments have played a useful role in organizing a number of activities for teachers, but the involvement of entire college faculty in the planning and development of programmes is very limited. In most cases, the college faculty has still to accept this work as its legitimate responsibility. Unless this is done, the training college will continue to function far removed from the real problems of the teachers in the field. No teacher education institution can claim to have played its role adequately unless it keeps in contact with teachers after they leave the institution and continue to provide professional assistance to them in tackling the problems they face in the schools. In fact even in the absence of an extension services department it should be possible for every training institution to take up extension programmes for schools situated in their area. Such assistance may include:

(i) Providing in-service education and other extension services to the neighbouring schools or at least to those schools where practice teaching for pupil-teachers is arranged.

(ii) Encouraging teachers of neighbouring schools to use the resources of the training institution.

(iii) Adopting some schools and developing them as model demonstration schools.

(iv) Developing and publishing professional literature for teachers.

(v) Keeping in continuous contact with the alumni and helping them through correspondence and publications as well as through consultative service.

(vi) Assisting the supervisory staff in their areas in organizing in-service courses for teachers.

This is just by way of suggestion. A resourceful college principal and his colleagues could think of a number of ways of extending help to the neighbouring teacher community considering their own resources as well as the local needs.

Supervisory Staff

The inspectorate in India has the major supervisory responsibility for school education. Unfortunately the approach of most inspecting officers has been to work for enforcement of the requirements of the State Departments. More often their comments and observations indicate that they have understood their role as one of *maintenance* rather than *development*. Once the inspecting officers recognise their chief function as *staff development*, they will automatically take over considerable responsibility for the professional growth of teachers. In fact they occupy a unique position in relating the problems of teachers to administrative as well as professional issues. If only they can utilise their position as professional leaders they can plan and develop some of the best in-service education activities for teachers. For this they have to identify the areas where such programmes are needed more, encourage teacher participation, identify talented teachers and headmasters who can be effective

resource people and organize in-service activities. It is possible for the inspecting officers to secure the services of various agencies such as universities, training colleges, business and industry for various types of in-service activities. Perhaps a necessary change in their present set up to undertake this responsibility is to reduce the size of their operating districts in terms of a certain number of schools and to give them assistance of subjects specialists. It is understandable that some inspectors have to inspect more than 225 secondary schools in their districts, at least once in a year, and therefore, they do not get any time to think in terms of their professional role.

State Institutes of Education

State Institutes of Education were established almost in all the States of India in the year 1964. These Institutes have been established mainly with the purpose of improving education at the elementary stage. With this end in view the State Institutes worked mainly with the teacher-educators in the primary training institutions and the supervisors in-charge of primary schools in the State. The State Institutes have a special division for in-service education. The in-service programmes are organized by them in the form of in-service education courses of a duration of one month each. The courses are organized for the teacher-educators and the supervisors of primary schools. The S.I.E.s have developed by now a formal in-service training programme for the teacher-educators. The in-service programmes are organized for groups of teacher-educators numbering thirty to fifty at a time. The teacher-educators at primary level are deputed for these courses by the concerned managements. The in-service training programme assumes the form of lectures followed by discussion, seminars and even workshops. At the end of one month a formal evaluation is made about

the gains made from the programme by the participants. There is no formal certificate issued except the certificate of attendance. The in-service programme consists of a good orientation to the staff of the training institutions in the area of teacher education. The course includes discussion of the syllabus of training institutions, instruction in the methods of teaching various school subjects, special problems of primary education —especially single-teacher schools, multiple class teaching, the role of the training institutions in the improvement of primary schools and new trends in elementary teacher education.

The State Isntitutes organize similar programmes for the supervisors of primary schools. The supervisors are given orientation about the status of primary education, existing enrolment in primary schools, the need for a drive for increased enrolment, the questions of wastage and stagnation, the improvement of primary schools, their better supervision, the new techniques of evaluating the school using improved criteria for the evaluation, and so on. The supervisors are mainly concerned with assisting the primary schools in improving school organization, adopting better methods of teaching different subjects, enlisting the support and the cooperation of the community, and in reducing the incidence of wastage and stagnation. In the in-service programmes all these aspects are discussed.

The extension services department attached to each S.I.E. is a laboratory to try-out new ideas, new programmes, new practices, using a group of fifty schools as experimental schools. The extension services department has a co-ordinator and the entire staff of the S.I.E. helps the co-ordinator in the programme of providing extension services to the group of fifty schools. In addition to the one extension centre directly attached to the S.I.E. it has also been put in charge of the other extension services centres attached to

the primary training colleges in the state. The major role of the S.I.E. with respect to the in-service education work at the primary schools, is to co-ordinate the work of all the extension centres at the primary level and to provide academic support and guidance to the extension workers in the state at the primary level.

To some of the State Institutes of Education, the Guidance Bureau, English Language Teaching Units, Evaluation Units and Science Education Units are also attached. The role of the S.I.E.s where such units are attached is to organize round-the-year in-service programmes in respective fields. In some of the states where the Science Education Units have been located in the S.I.E.s, round-the-year in-service programmes for the practising teachers at the middle schools are organized. Similarly round-the-year in-service programmes in the field of guidance, evaluation, audio-visual education, English language teaching, are also organized by some of the S.I.E.s in the country.

At present, the S.I.E. in a state is the main agency for sponsoring, organizing, co-ordinating and assisting all types of in-service programmes for elementary teachers, whether organized directly by it and its constituent units or organized by other agencies in the state. It is hoped that, before long, the S.I.E.s will act as effective co-ordinating agencies for all types of in-service education programmes in each state. They will also have to constantly strive to improve the quality and effectiveness of varied types of in-service education programmes and activities.

Professional Organizations

By definition the professional organization is an association of persons working in the same profession. One of the criteria for an occupation to be called a profession is that it

should strive for the upgrading of professional standards. Professional organizations of teaching personnel aim at the professional development of their members with a view to upgrading their professional standards. If the in-service growth of a teacher is considered to be the primary responsibility of the individual himself, the role of the professional organization assumes special significance. The professional organization has to provide opportunities which would promote the growth of its individual members. The National Education Association of U.S.A. is one of the premier professional organizations of teaching personnel in U.S.A. having a large number of specialized departments. Each department is mainly engaged in such activities as would provide ample scope to its members to keep abreast with all new knowledge developed in the field. The annual conferences of various departments of the N.E.A., their publications, their mode of developing the publications, the tradition of setting up study groups of professional persons, the national and the state-level convensions, are all activities aimed at the in-service growth of the teaching personnel. In India the profession of teaching personnel has still not developed adequately. However, quite a number of teachers organizations are gradually becoming professional and are beginning to assume responsibility in working for professional growth. The South Indian Teachers Union of Madras is one of the premier organizations in India which is sponsoring a variety of activities leading to the in-service growth of teachers. The association has sponsored a research council, a council for the improvement of education and a few professional journals, like the Mathematics Teacher, the Geography Teacher, the English Teacher, the South Indian Teacher, etc.

The recently started school study council known as "Biradari" in Gujarat has shown how a group of enterprising

headmasters and teachers can join together and work for the professional growth of teachers. This organization has begun to develop instructional materials for teachers in the form of handbooks and for children in the form of workbooks, cooperatively by bringing groups of teachers together and also developing appropriate in-service activities for teachers of member schools to train them in the preparation and use of such materials.

The Indian Association of Teacher Educators is another professional organization which has taken up some series of studies in the field of teacher education and is gradually making its voice felt among the authorities taking decisions in the field of teacher education.

The type of activities which professional organizations can and should organize for the in-service growth of its members are mentioned below:

1. Selecting major themes for discussion at the national convention.
2. Setting up groups to study in depth some of the crucial problems in teaching.
3. Planning a programme of publications which would deal with the problems of teachers and such areas of education as would promote the growth of teachers.
4. Identifying on a priority basis problems in the field that require research studies in depth.
5. Organizing exchange of teaching personnel between schools and schools within the state, between the states and between the different countries.
6. Organizing discussion groups, workshops, seminars on new developments in the field of education with

a view to keeping its members acquainted with the latest trends.

Universities

The universities being the seats of higher learning can play a very significant role in promoting in-service growth among teachers. Some of the universities have in fact already given special consideration to the teachers in-service by permitting them to appear in higher examinations as external candidates. Jodhpur University has recently started vacation courses for teachers to do Bachelor of Arts in Education. The Punjab University allows teachers with Junior Basic or equivalent training qualification and with specific time of service in schools to appear in B.T. as external candidates. Dharwar University has instituted vacation courses for the M.Ed. degree. Delhi University and the regional colleges of education have started correspondence-cum-vacation courses for B.Ed. degree. There are also evening courses both in Delhi University and Jamia Milia, Delhi. Other universities should also take such steps and give opportunities to teachers to undertake further studies and thus improve themselves to do their jobs better.

Universities will do a great service if they accept to issue diplomas and certificates in case of primary school teachers, as is being done in some cases in the universities of Gujarat and Maharashtra. This will provide some basis for the development of and provision for higher courses in elementary teacher training.

The University Grants Commission has done a great service in sponsoring through universities in India, summer institutes for school as well as college teachers. This has brought the university personnel closer to school teachers. For the first time the university professors have got directly

involved in improving school education through these programmes. These institutes also reflect the importance of improving the subject matter equipment of our teachers. It is hoped that the universities will institute such ccurses on a regular and permanent basis and even count them for credit to higher degrees that the teachers may obtain through such participation.

National Council of Educational Research & Training

The NCERT being the principal agency functioning at the national level with responsibility for organizing in-service education programmes for teachers has to play an important role in the development of these programmes. Its role attains greater significance at the present moment when the states are accepting the responsibility to take over the financial burden of the extension services centres. This is the time for the Council to impress upon the state authorities to provide extension departments to each training college. The Council has also to approach areas like N.E.F.A., Andaman and Nicobar Islands, etc. where such services have not been started at all. In fact the Council should divert some of its financial resources to these areas in case of savings from the taking over of some of these extension departments by the states. The Department of Field Services in the Council should continue to discharge clearing house functions as well as consultant services to the State Departments as well as to training institutions.

The Council should also provide such training courses as will equip supervisory staff of the State Departments to discharge their duties of giving academic guidance to teacher more effectively. The Council has also to initiate new programmes of in-service education for other key

educational personnel in the State Departments of Education and other agencies in the states.

Another major responsibility that the Council has to assume is to undertake research for improving the effectiveness of in-service education and extension programmes. The setting up of the Extension Research Centre in the National Institute of Education is a significant step in this direction.

The Council has been the pioneer of in-service movement in this country and major part of work in this area is carried out by its agencies all throughout the country. Looking to the experience and expertise accumulated over a period of decade or more, it is quite pertinent to think that the Council has to take up greater responsibility in the co-ordination of all in-service education activities carried out by different agencies. Its programmes appear to be ad-hoc in nature. More fundamental work needs to be done by way of thinking of the educational system as a whole, assessing its needs for remedial work as well as for betterment, and directing the state efforts at improvement. A huge organization like this can at least produce the most up-to-date literature in professional education useful for teachers to bridge the present gap in their knowledge. There are volumes of research data which are not available to teachers. What research says to the teacher can be transmitted to him in the language, stripped of its jargon of technical terminology, by the experts of the Council, in a lucid and understandable manner. This is perhaps the most vital and feasible measure that could be immediately implemented. Such literature will reorient not only teachers, but also many outdated teacher-educators. This would further work for the betterment of pre-service programmes. Ultimately, the final quality of the in-service education programme depends upon the teacher-educator who generally acts as the consultant.

Summary

The major responsibility of in-service education of teachers lies in India on the institutions like National Council of Educational Research and Training, University Grants Commission, State Departments of Education, State Institutes of Education, universities, colleges of education and the professional organizations of teachers. They have begun to shoulder this responsibility in amateur fashion and great efforts are still needed to produce quality programmes. The personnel manning these services lack background and training in extension work and, therefore, are unable to produce any tangible outcomes of their efforts. The spectacular descriptions of activities and reports of the above agencies should be interpreted in the light of the above background. In the foregoing pages, though the descriptions of activities are gratifying, often-times they are carried on as mere formalities. They are as good as not done. A few of the centres do them, the most of others do something else. There is lack of co-ordination, cooperation and even communication. It is, therefore, necessary that the agencies which are not assuming the full responsibilities entrusted to them should follow the lead of better developed centres in their own category or line, and see that the descriptions of optimum programmes fit them too. A further expectation that they should also mark their identity as innovators by showing something which is their own unique and characteristic contribution, is also not out of place looking to their role in the educational reconstruction of the country.

XIV IN-SERVICE EDUCATION AND PROFESSIONAL MATURITY

—Role of Supervisor

ROY PATRICK WAHLE

Introduction

Supervisors and curriculum workers are expected to help classroom teachers improve instruction. This can be done only by improving their own competencies in order to be able to assist practising teachers improve themselves.

The essence of a good supervisory program is contained in the systematic efforts which are made to change people in ways that bring about instructional improvements. Indeed, it has been asserted by Ben M. Harris and others, that *the supervisor's job is more nearly one of director of in-service education than anything else.*

The work of the supervisor as director of in-service education has shifted remarkably in recent years although the goal of improving teacher competencies has remained unchanged.

Planning for in-service institutes and programs for teachers was an important duty for supervisors in the past. In recent years, as the

pre-service education of classroom teachers has improved, in-service activities have become increasingly a cooperative venture which includes classroom teachers not only in the planning of in-service programs, but also in developmental and instructional phases of the programs. Numerous classroom teachers are now qualified competently to lead their peers in given areas of study and improvement of classroom learning. As a consequence, the role relationship of the supervisor and curriculum worker in this area is a changing one.

It is fundamental to the realization of professionalization for supervisors and curriculum workers, and important to their successful accomplishments within the school enterprise, that their involvement with in-service education in its newer dimensions be intimate and emphasized.

Background

The early in-service programs in this country (in the 19th and early 20th centuries) took the form of teachers' institutes which were designed to correct widespread deficiencies among poorly educated and inadequately trained teachers.

In the recent past, teacher improvement became the emphasis. Unfortunately, there is very little description or evidence available concerning in-service activities in public schools or about cooperative efforts between teacher education institutions and public schools.

As pre-service teacher education improved, workshops rather than institutes became popular. It is interesting to note, however, that recent legislation, notably the National Defense Education Act, describes year-round and summer institutes which are designed to upgrade knowledge in given subject areas.

Another notable development is the advent of fifth-year programs for liberal arts graduates in order to prepare them for teaching careers.

Currently, the emphasis is turning to the career development of all professional educators. Varieties of approaches and various systems of financial subsidies are being explored.

Cooperation between school districts and higher institutions is appearing with much in-service work taking place in the school setting. School district personnel, with the close assistance of university or college personnel, are "deputized" by the higher institutions to lead specific programs.

School districts, relying upon their internal and competent sources, are sponsoring many in-service or career development activities, without direct reliance upon outside assistance.

In the future, relevance, acceptance and efficiency of in-service work point to the inclusion of all school-associated personnel. Professors, administrators, supervisors and curriculum workers, teachers and students may contribute to the enterprise. The co-ordination of all this interest and talent will logically emphasize the supervisor's job as the director of in-service education. It is a unique function concerned with the improvement of instruction. The emerging clarification of this feature of the supervisor's tasks will do much to support his professional status and to enhance his professional stature.

The Current Scene

The objective of modern in-service education is continuous with the past, but it is not the same. Greater insight into what one is doing so that he may do better what he must do anyway continues to be the goal. But the improvement

of teacher education, especially within the past several decades, has broadened the scope. Although too many teachers continue to assume that in-service work is best identified with courses or subjects offering college credit, we now see in-service activities largely directed toward the development of the professionalism of the career educator.

Increasingly, the term career development is being used to include in-service programs.

New ideas, methods and movements have proliferated in recent years. Supervisors and curriculum workers must keep knowledgeable concerning these matters and must continue to help interpret them with the classroom teachers.

Supervisors recognize that it is their obligation to "orchestrate" the various competencies within their school system so that the students are assured authenticity within their school experiences. Thus, elementary teachers could be called upon to help secondary teachers with learning problems, and a secondary teacher who specializes in science may help elementary teachers with problems in science content.

In-service programs may continue to include organized course work, institutes and workshops.

The newer career development emphasis permits the inclusion of other types of individualized and group activities.

Included among the individualized programs are independent study, writing, action research, planned reading programs into given areas or about given concerns, work experiences, observation, educational travel, micro-teaching, various child-study projects, "simulation techniques," case development studies, teacher exchanges, and the effective use of video tapes and other audio-visual devices.

Group activities may include one or more of the individualized programs in a group setting as well as

participation in learned societies or professional organizations, human relations laboratories, conferences, team teaching, retreats, seminars and committee work.

The career development emphasis differs from older in-service training primarily in the source from which it is derived. In-service programs in the past were often designed for classroom teachers and "imposed" by the administration. The career development approach emphasizes better human relationships by being initiated from within the instructional workers groups and motivated by a feeling of the need to know more about the nature of innovation, the changing structure of knowledge and skills (including new media) which comprise the tools with which instructional personnel and teachers must work.

Career development implies that in-service activities must be preceded by self-study. A continuing survey of one's own skills and knowledges in relation to the understandings necessary for continuing qualification as a professional worker in one's area of service must be self-imposed.

The Future

In-service activities must contribute to the greater professionalism of supervisors and curriculum workers. Their leadership in cooperative ventures with all others who are professionally associated with the educational enterprise will contribute to the essential nature and greatness of the profession of education.

Supervisors and curriculum workers must stimulate members of the profession to exceed their best efforts. It is the task of the supervisor to plan for professional growth (his own and that of classroom teachers and others) in a systematic and inclusive way. The supervisor must challenge

all members of the profession to exercise continuously the talents they possess in order to serve the ultimate benefit of children.

As in the past, in-service education should keep each educator abreast of developments in his field and in education in general. In-service education should contribute to continuing growth in intellectual curiosity, contribute to growth in creativity and imagination, and help each person seek new insights and relationships as a result of new theoretical constructs, cognitive and affective systems, and research in the behavioral sciences.

In the future, school systems will provide leadership through their supervisory and curriculum workers' staffs and in counseling individual teachers and administrators in order to encourage their willingness to explore new frontiers.

Supervisors will help implement projects conceived by the schools' faculties. Better human relationships will keynote all modern endeavours rather than creativity alone or improvement in classroom teaching, as in former days.

It is evident that myriads of newer methods, media, materials and content may be made available to the schools, but none of these newer and, perhaps, better things will readily affect a single child unless there exists a highly motivated in-service development. The latter process must complement and augment the work being done on campuses of higher institutions of learning. This is especially demanded if their pre-service programs are up-to-date.

The supervisor and curriculum worker will strive constantly to improve their proficiencies and skills, and to work effectively as leaders and as members of various groups. They must see the schools' enterprise as a whole and as it is related to the development of civilization.

Future emphasis in in-service work will treat in-service development as a long-range problem rather than as a fragmented or transient affair. Moreover, whenever possible the constructive interplay of the individual upon the group and the group upon separate individuals will be consciously sought by the planners of the various in-service activities.

Supervisors and curriculum workers must continue to recognize, despite their specific titles or assignments, that they are working within a continuum from nursery school through the post-doctoral levels. Whatever they may do may throw harmonic or disruptive glimmers up and down the spectrum of their community's educational efforts. They must continue to be concerned about the gap between sound theory and actual classroom practices. They must take into account the potential of disruptive interpersonal relationships among the public, administrators, supervisors and teachers. Above everything else supervisors and curriculum workers must understand the process of change and respect its inevitability.

The Question of Time

Time can be found to do the things which need to be done! In-service development is a necessity. Time must be found for in-service work which the traditional school allocations do not now permit.

Instructional leaders have long advocated that each teacher should have time for one hour of preparation for each hour that he teaches. We are far from this needed condition. But when it does become a reality, it may be asserted that in-service development of the kind described in this paper should occupy at least one-half of the teacher's preparation time (or one-fourth of his contractual period of employment).

The practice, already accepted in some school systems, of dismissing pupils for at least one afternoon a week should be more widespread. Such released time would assist the teachers to prepare better and to participate in ever-renewing in-service development. These opportunities, if well-planned and well-directed would intensify the quality of the classroom experiences of children and more than compensate for the time which children are not under the direction of the school.

XV THE ADMINISTRATOR'S ROLE IN IN-SERVICE EDUCATION

Since the end of World War II, American education has faced the postwar "baby boom," shortages in numbers of schools and trained teachers, lack of adequate financial support, and the Sputnik-inspired emphasis on science and mathematics. The lay public became concerned about education, and some educators began looking for cure-alls for our educational illnesses. Just as "swamp root" remedies for medical ills proved less than effective, so too have many of the educational medicines. Nevertheless, the problems did create action, and the action resulted in research and investigation. Professional growth took on new characteristics and in-service education's status improved. By no means is in-service education the miracle drug that will make everything right with education. As a matter of fact, some of the in-service education programs have been a detriment to education. The fact still remains

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that an effective in-service program can produce results that will lead to increased competence and effectiveness in the performance of teaching.

Why Have In-service Programs?

Often little thought is given to the purposes of in-service programs. They become the thing to do, they are the status symbol of the educational community. But to be effective the purpose of any in-service program must be clearly understood. The administrator in order to be a participant in an in-service program must clearly understand its purpose. More importantly, he is responsible for making this purpose clear to the others who will be involved. He may have to defend a program to the board of education, the PTA, a service club, or even to his colleagues.

Therefore, one of the basic responsibilities the administrator has is to clearly understand the purpose and principles of in-service education. Professional growth in these constantly changing times is a concern of every profession. Education, as a profession, must provide its staff with opportunities to grow. Thus, to reiterate, the major goal of any in-service program is the professional growth of the teacher. The assumption is that growth by the teacher on a professional level will lead to improved instruction and thereby to greater learning on the part of the students.

Since the general purpose of in-service education is professional growth, specific in-service programs must have more clearly defined objectives. The administrator must be careful to make sure that the specific purpose of an in-service program is not simply to have an in-service program. The program must be planned with an evaluating process available. The planned purpose of a program may be to keep the teacher up-to-date as to subject matter, teaching methods and tools,

knowledge of children, or changing concepts within our society. The principles behind any program of in-service education are important to the administration of the program. Spears lists six basic principles behind the movement:

1. The professional training of the teacher does not stop when he leaves the college for his first job.
2. Nor can his future professional development be adequately served by continuous teaching experience alone.
3. The school system should provide opportunities for teachers to continue to grow on the job.
4. These activities when planned and co-ordinated can be called the in-service training program.
5. The provision of personnel in the school budget to help teachers in such a program as a legitimate expenditure.
6. The test of the in-service program lies in the improvement of the instruction and consequently in the improved development of the pupils.

These principles must be accepted by the administration if the program is to work.

The Administrator Provides the Climate

In administering the program, a vital concern for the school leader should be to establish a creative atmosphere within which to work. The major objective—professional growth—indicates change on the part of the participants. The change that takes place is often upon values, skills, information, and relationships. Therefore, the administrator must act as a stimulus for change. He must be aware that change for change's sake is not the objective, but, rather,

change that will result in improved educational opportunities is desired. The role of the administrator in the in-service program is that of a catalyst. He can speed up or slow down the program but by no means is he the one and only major element. The administrator should keep in mind what Spears points out:

An in-service program that is cooperatively planned by administrators, supervisors, and teachers to meet a wide variety of educational needs saves the time and energy of all concerned and at the same time gives greater assurance of more functional outcomes.

He does not institute the program from above but rather aids in its fermentation within the staff. He provides an atmosphere in which confidence, acceptance, and democratic philosophy are apparent. He may create such an atmosphere by:

1. Making himself available to teachers.
2. Respecting the ideas and values of others.
3. Developing a rapport with his staff.
4. Investigating the full facts of a matter before making judgments and decisions.

The Administrator Helps to Define the Problems

A further major role of the administrator is to help others to see the problems in need of study. This requires skill, direction, and the ability to work with groups. If it is approached in a dictatorial manner, chances are, more than likely, that the program will not bear fruit. Before he can help others see the problems, he must be conscious of them as well as the areas of frustration of his staff. For, if a program is to be effective, it must be founded on the desires of the

teaching staff to improve their professional competence. The ability on the part of the administrator in enabling others to see the problems takes many forms. He can raise questions and stimulate teachers to talk about the strengths and weaknesses of the school. Providing time for visitations between classes or schools can often lead to desire for change in teaching procedures. The availability of professional materials in the form of films, filmstrips, and pamphlets can stimulate faculties. Free time during the day to attend conferences, clinics, and workshops may instill in the staff the desire to eliminate problems. The administrator may institute a study of dropouts which could result in teachers seeing the problem of improving instruction for the non-academic. These are but some of the tools and methods the active administrator can use in helping others see the problems needing improvement.

The Administrator Provides Facilities and Leadership

Once the problem has been defined, the administrator can be of service in helping the project get started. One area where his leadership is vital is in securing funds, if they are needed, for the program. If through group interaction a program involving extension work is decided upon, the administrator can help provide classrooms and possibly financial support. Studies indicate that the best in-service programs are undertaken in large districts that are wealthy enough to support them. Other studies point to increasing board of education contributions to in-service education. The allocation of funds is not necessarily in the form of increases in salary for courses taken. The administrator can play an active role in securing funds for increasing the professional library, ear-marking funds to be used to bring in

experts, and financing workshops. In addition to providing funds, time and place are two items that the administrator has at his disposal to provide. Many in-service workshops are held after school or on weekends. The administrator can, if he so wishes, provide suitable time during the school day. Buses may run early or half-day sessions may take place once a month. Some administrators feel that they are short changing the student's education by this procedure. However, if increased teaching effectiveness results, the investment of time and money is worthwhile. An adequate program might be a board of education allocation of $10 per teacher to be set aside for in-service training. The administrator might sell a board of education on such a program if the teachers would contribute one half the amount ($5). Thereby, a school with a staff of 150 could have a potential budget of $2250 for in-service education.

The Administrator Plans and Evaluates

Effective implementation of in-service education plans is especially important. The program may die because of little or no results. The administrator would do well to establish a schedule, perhaps covering a three or five year period during which certain objectives would be reached. Thus, rather than trying to accomplish every task in one year, certain projects would receive priority. In addition to putting a program into action, the administrator is in a position to help evaluate the results of in-service education. The process of evaluation should be a joint venture. Nevertheless, the administrators may implement the process by helping teachers and others: review plans made at the beginning of the year, project, or activity; determine what has been accomplished; examine the difficulties or blocks

that have impeded progress; see growth in themselves and others; determine the next stage for continuing the project or beginning a new one.

Since many phases of in-service education require group interaction the school leader may work toward helping groups increase their competence. The encouragement of an in-service program will not be enough. The administrator must harmonize the various personalities that go into making up the faculty. The able administrator will see that the group is clear on the goals and that there is participation and interaction on the part of many. For, if the majority of the staff have a hand in the process, carrying out the results will be facilitated. No in-service program is worth the effort if it does not improve the professoinal competence of the staff.

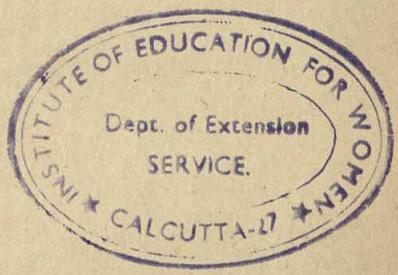
Summary

The administrator's role in in-service education can be summarised as one that

* Helps define the purposes of in-service training.
* Establishes a creative atmosphere by his confidence, acceptance, and open mindedness towards his staff.
* Brings the problems into focus for all to see.
* Facilitates in starting a program.
* Works within the group in developing acceptance.
* Aids in putting the program into action.
* Provides for group evaluation and supervision.
* Puts into operation the results of the program.

An in-service education program should not be conceived because it is the "thing-to-do" in education. The programs in the future will grow out of the desire to improve professional

competence on both the part of administrator and staff working cooperatively. The board of education and lay public must be made aware of the necessity for professional development and be willing to contribute in time, talent and money to these programs. As this growth of in-service education matures, the administrator's role as a leader in improving instruction will flourish. He will no longer be content with the multitude of details of administration but will emerge as the guiding force for professional development. An effective in-service program is not a cure-all for increasing professional talents, but it is vital to improvement of instruction.



XVI TRAINING OF EXTENSION WORKERS

1. Growth of Extension Services

In the past two decades, the world has been witnessing an increasing trend towards the provision of extension services for carrying the knowledge of improved techniques of working and living right to the doorstep of several occupational groups as well as the generality of the people. Educational extension has been accepted both in advanced and developing countries as an effective means of improving the performance of persons engaged in developmental and welfare tasks. In developing countries, it is also being used for introducing technological changes into traditional societies and leading them towards modernization. As a technique for promoting the on-the-job development of adult workers, its success has been unquestionable.

With the launching of the Community Development movement, the idea of organizing extension services not only for the reconstruction

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of rural life but also for increasing the efficiency of workers in some of the developmental and social occupations, has rapidly gained ground. The extension services for improving primary and secondary schools through leading their teachers towards a better job-performance, is an instance in point. The secondary stage was the first to benefit by this new movement for educational improvement, probably because of the considerations of a manageable number of chools, better-educated teachers and existence of an established agency like the secondary teachers colleges for carrying out the extension programme. Extension services for primary school improvement have now been instituted on more or less the same model. One striking difference seen at the primary level, however, is that the extension-effort is restricted to about fifty schools only, in the vicinity of the extension centre.

2. Provision of Training

Evidently, the question of the training of extension-workers will have to take into account the kind of organizational pattern we have created and the manner in which we might evolve it further. All personnel within this pattern are undoubtedly to be viewed as extension workers. The details of their functions would, however, differ from person to person, depending on the roles and specialized performance of each. It is therefore necessary to examine what kind of personnel operate in the present pattern of school-extension.

Situated in a teacher-training institution, the extension centre is guided and supervised by the principal who is designated its honorary director. The day-to-day programmes of extension and the office-management of the centre are entrusted to a person (usually of the lecturer's status)

called the co-ordinator. The presumption implicit in entrusting the extension services to teachers colleges appears to be that the various specialists on the staff of the college would carry out the in-service education programmes for teachers. The post of co-ordinator is obviously meant for the purpose of co-ordinating the efforts of the college-staff and the schools in the extension area, for carrying out in-service training and school-improvement projects. Since the principal of the training college is also the honorary director of the extension services centre, his job is apparently to induce and guide the entire staff of the training college to plan, organize and carry out the in-service training programme and to guide the schools in their project-work. This situation makes it plain that it is not only the honorary director and co-ordinator of the extension centre but the whole staff of a teachers college are to be designated as extension personnel. Perhaps, in addition to them, outstanding teachers who take leadership in guiding weaker schools to carry out improvement projects, may also have to be put into this category. Further, it must be recognized that besides the personnel specially appointed to organize and give an impetus to extension services, other people connected with school education will have to be treated as extension personnel. The inspectors and supervisors of schools as well as the non-official office bearers of school-boards and education-committees are the two groups which require this recognition. At present, the programmes of extension services take very little notice of the assistance these persons can give for the promotion and successful implementation of extension activities. Consequently, they often react towards the extension programmes with more hostility than support. This reaction is natural because the indifference of educational extension centres towards them probably hurts them more than an outright rejection of their association with the services. It is,

therefore, essential that they are treated as associates who actively help in extension work. The question of organizing the training of extension workers in education cannot, therefore, be discussed only in relation to the honorary director and co-ordinator of the extension services centre, but has to include in its scope all the persons concerned with the guidance, supervision and promotion of extension services. It is clear that the roles and functions of the different categories of persons involved in extension work will be different. These differences will naturally have to be taken into account while organizing their training.

3. The Scope of Training

The extension services for school improvement primarily aim at redesigning the formulation and implementation of the instructional programme to bring it into accord with the rapid change in the objectives and techniques of modern living. So far, they have restricted their scope only to the situation in the school. This has been a convenient arrangement, particularly at the initial stages of the movement when the possible potential of extension activities and the capacities of extension workers were more or less unknown factors. But like all extension, educational extension also is a very complex process which gathers into its folds not simply the isolated act of classroom instruction but a multitude of factors related not only to education but to the totality of the life of the people to whom the school is expected to serve. No extension work which treats the instructional process as a closed system can, therefore, hope to achieve its goals adequately. The extension worker has to remain sensitive to the numerous factors that reduce the effectiveness of the teaching-learning process and adjust the extension effort accordingly. Such factors as wastage,

stagnation, student-indiscipline, lack of direction and guidance from administrators and supervisors, interference by social and political pressure groups, out-of-date textbooks, the rule of thumb manner of constructing the curriculum, amdivalent feelings of society towards the role of teachers, frustration of teachers with their status and service conditions, divorce between educational planning and educational provision, contrary pulls of the unrealistic traditional training programmes of our teachers colleges and movements for the modernization of teaching, conflict between traditions of liberal education and the demands of technological advances — all these and many more such factors operate very widely and reduce the effectiveness of school-education. The number of problems, options and blind alleys that face the teacher today is large. He hardly gets any direction and guidance for adjusting himself and his work to the changing structure of values, roles and techniques in a rapidly changing society. For instance, some of the emerging needs for restructuring parent-teacher relationships and teacher-pupil interaction are extremely disconcerting to the teacher trained to work in the traditional manner. When he was to learn to recognize that it is not only his own personality that deeply affects the ways of the communities, the parents and the pupils but that the community, parents and pupils probably have deeper impact on his own personality, he finds himself in a state of high emotional crisis. At such a point he needs more help than mere orientation in teaching-techniques, if he is to adjust to this new situation and find out ways of living and working satisfactorily. The traditionally oriented teacher has also to contend with the fact that educational activities are now more precise and that the instructional process has to be more diligently planned and managed than in the past when life was comparatively simpler. That teaching and learning in the modern times is no longer for

the sake of learning but for the sake of economic and social objectives, is a new principle which he must now absorb. Apart from teaching in the classroom, he now has to answer such disturbing questions as, who is to be educated? to what end? what is to be taught? what methods to adopt? to whom is the teacher ultimately accountable for his job? Briefly, the teacher has to have a totally new job-perspective. It is no longer enough for him to learn the techniques of teaching in the classroom. It is very essential that he bases his techniques on and reinforces them through a keen social perception.

The task of the extension workers, therefore, cannot restrict itself to the development of instructional skills alone. They have to include within its scope several facets of educational and social developments and, through their understanding, build up a system of extension which would facilitate a self-help programme for teachers and bring about changes in their perceptions, skills and attitudes, without causing much maladjustment. It should, however, be clearly understood that extension should not be made a process either of social engineering or professional manipulation. It should always remain an instrument of desirable and planned professional modifications, through the smooth adaptation in individuals and groups to the demands of a changing society.

Since the purpose of extension is to enable individuals and groups to adapt to change and to participate in it, the role of the extension worker becomes that of an agent of change. The general scope of the training of educational extension workers, therefore, would be very much like that of the training of other change agents in the developing society.

4. The Bases of the Training Programme

As already stated, the staff of teachers colleges, including

the co-ordinator, would be the chief agents of change both at the secondary and the primary school levels. It is their training that we shall first have to discuss in the light of the roles that they have to play and the areas of experience that they must cover as agents of change. Another basic factor which must be considered is the kind of client-system to whom the extension workers are to address themselves. This is a very important factor because the nature of extension activities and their methodology would depend in a large measure on the views the client-system holds on the need and utility of extension and the view they take of the extension worker's role in relationship with themselves.

(i) THE ROLES OF THE EXTENSION WORKER: The extension worker is often likened to the catalytic agent which produces changes in other chemical bodies, without undergoing any change itself. It is true that the new concepts and practices which the extension worker introduced among people set in motion such currents of change as affect them more than the worker himself. But there are several clear differences between the performance and effects of the chemical catalytic agent and the human agent of change.

The human agent of change introduces to individuals and groups, new ideas and practices. He creates in them a desire to change their old ways of living and working. When this desire is aroused, he has to proceed to the next stop, namely, meeting the challenge of the desire by providing to the people the necessary guidance and facilities for change. This is where he differs from the chemical catalyst and becomes an 'extension worker'. From the role of the catalyst, the 'initiator' of change, the change agent passes on to the role of the 'enabler.' Then, as people begin to develop new ways of working, he has to provide them with better tools and a helpful environment so that they may not get frustrated and tend to lapse into old, unsatisfactory ways of working.

Arranging for the supply of suitable teaching aids and other equipment, developing new ways of organizing school work and promoting an atmosphere which will support and accelerate desirable instructional change, are other tasks for the agent of change. In carrying them out, he takes another role — that of the 'facilitator'. Once the forces of change are released, they usually effect a greater change in the material environment than in the people. This factor, as also the achievements of a few outstanding individuals and groups, outpace the change of the generality of the workers and produce a state of incongruence in working relationships. When such a situation causes anxiety and difference which result in maladjustment to work and surroundings, the agent of change has to devise programmes which would help people to steadily adjust to the changes in their work, as they go on occurring. The agent of change has, therefore, to keep in readiness to take the role of a 'therapist' in order to help people to 'adapt' themselves to change. In this role, he provides continuous 'remedial' programmes to retrain people for adaptation to their changing tasks.

(ii) AREAS OF TRAINING EXPERIENCE: Some of the areas of training experience necessary for an extension worker can be stated as follows:

(a) In order to institute realistic extension programmes, the extension worker must gather skills in diagnosis. The techniques of questioning the clients, interviewing them, observing their work, collecting relevant information, processing and interpreting the information thus collected, must be mastered by him to diagnose the needs of his clients.

(b) Evaluation of the extension efforts must be conducted by the extension worker from time to time. He has to undertake the responsibility of finding out whether the

complex changes set in motion through the joint efforts of his clients and himself are proceeding fairly along a pre-planned path or not. Judgments on the methods of implementation and the impact of the change movement must form a part of his experience.

(c) There is no doubt that all extension workers will have to have a comprehensive experience in all aspects of extension work. But it would be necessary for some of them to specialize in working with special groups of the client-system, such as headmasters, assistant masters, or special teachers. Specialization would also be necessary in the techniques of teaching different subjects, methods of carrying out various school activities, organizing experimental projects and action research, and so on.

(d) A fairly wide understanding of the social processes of which education is only a part, would be required for all. The problems of teaching may arise from a large number of causes such as unhelpfulness of the community, political pressures, conflict with management, inadequacy of supervision, lack of adjustment with colleagues, etc. The extension worker must train himslef to possess a sufficient sensitivity to all factors which impinge upon the instructional process and the morale of the teachers.

(iii) ORIENTATION OF THE CLIENT-SYSTEM: As it is necessary for the extension workers to have a clear understanding of the nature and problems of their client-system, some idea of the orientation of the client-system regarding the functions and roles of the extension workers is also essential. The clientele has to recognize the need for assistance before it shows readiness to respond to the approach of the extension workers. The orientation of the client-system, therefore, is one more and a very important task which the extension workers must tackle.

5. Nature of Training for Different Categories of Extension Workers

(a) The consideration of the roles and essential work experience for extension workers make it obvious that the syllabus for their training will have to be evolved by an inter-disciplinary team of educators and social scientists. Communication of new ideas, attitude-change, and cultivation of new habits are major goals in extension activities. In order to reach them satisfactorily, the extension workers will have to develop a keen professional and social perception, skills in communication and facility in organizing groups of teachers for self-development and the improvement of instruction. The extension worker is primarily to be viewed as an agent of change and not as an academic professor of education. His role as an agent of change will have to be firmly decided and emphasized in order to evolve a training programme which will give him the competence necessary to carry out his tasks.

(b) Since all the members of the staff of teacher colleges are to be considered as extension workers, a comprehensive core of training will have to be devised for all of them. For the co-ordinator and the honorary director of the extension services, however, fairly intensive short-term courses may have to be instituted, to specifically train them for their tasks of leadership and supervision. These two functionaries will be more or less the generalist extension workers, whereas members of the staff will have to specialize in different skills and techniques of instruction according to the group of clients they would address themselves to, the nature and level of the problem they are called upon to solve, and the types of activities they must guide, etc. The common core of training will help the generalists and specialists both, to develop skills in the techniques of gathering information,

diagnosing situations and acquiring actual practice and exercise in the skills of extension work. The whole training programme will necessarily have to be action-oriented and will have to contain a substantial proportion of well-planned and guided field-work.

(c) Though all the training programmes will be in-service for some time to come, a stage will soon arrive when preliminary training for extension work will have to be organized for special workers like co-ordinators of extension services centres. However, in no profession can preliminary training be considered as complete. The preliminary course would provide theoretical grounding and include an introduction to field-work. But real insights into field-work and a clearer perception of the problems of the clientele of extension can be given only after the extension worker has had a considerable practical experience of his work. It would, therefore, be essential to organize continuous refresher training programmes for co-ordinators to discuss the various problems which crop up in the course of the implementation of extension programmes.

(d) As already pointed out, it is necessary to train or at least orientate official and non-official educational leaders towards understanding the concepts and practices of extension. Their programme of training must also take note of the major functions of these extension workers. They would normally act as resource persons and communicators for the extension programmes. Being field officers, they would be in constant touch with all types of schools and teachers and their services would be available for carrying out exploratory studies regarding the need for extension and the nature of activities required for the improvement of instruction and organization of school activities. Moreover, they would be very useful in carrying out a follow up of the extension work done by teachers colleges. In order

that they might do this work with understanding and enthusiasm, carefully devised short-term programmes of orientation should be organized for them.

(e) For creating an atmosphere of acceptance for extension services and an attitude of welcome towards the extension worker, all possible avenues will have to be explored to give an orientation to secondary and primary teachers in order to help them realize the importance of extension services for their professional growth and job-satisfaction. To begin with, office-bearers of teachers organizations may be given such orientation so that they may actively sponsor the movement for extension among their own client-systems. The content of orientation may restrict itself to the concept of extension, description of extension practices and the media of communication to be used by key-persons to create an atmosphere of acceptance for extension programmes.

6. Organization of Training

The question of the organization of the training of extension workers will have to take into consideration three essential factors: (a) agencies for training, (b) personnel for training, and (c) training material.

(a) AGENCIES FOR TRAINING: In the initial stages of the training programme, an all India agency like DEPSE (now DFS) will have to undertake the provision of training courses, mainly for the staff of the training institutions. The courses may cover all teachers college personnel such as honorary directors, co-ordinators and teacher-educators specializing in the methodology of different instructional areas. The cooperation of university departments of social sciences and of schools of social work, will have to be obtained even at the national level in order to organize a comprehensive programme of field work. Since the training in human

relationships would be a very important part of all the courses for extension workers, the cooperation of schools of social work would be of particular advantage.

Since extension services are being gradually recognized as an inbuilt activity of teachers colleges, both at the secondary and primary levels, suitable training programme for the staff of teachers colleges may be instituted in workshops or summer institutes to be organized in different regions and states. These workshops and summer institutes may also be guided by an agency at the national level.

At the state level, it would be possible to utilize the State Institutes of Education for the establishment of Extension Training Centres. These centres would mainly conduct the preliminary training for extension workers and the orientation training for associate extension workers. It would also be necessary to form peripatetic teams of trainers to go round and conduct the training of the staffs of training institutions, inspecting officers, and non-official educationists, at various subcentres which would be easily accessible to all types of workers and would facilitate for them an intensive field experience within the area of their operation.

(b) PERSONNEL FOR TRAINING: The instructors of the Extension Training Centres, both at the national and state levels, will have to be trained by inter-disciplinary teams of educators and social scientists. It would probably be feasible to organize such "Trainers' Training" with the assistance of Institutes of Community Development and high level experts in educational organization and planning. Foreign consultants may be of particular help at this level of training.

(c) TRAINING MATERIAL: Though educational extension services have been in existence in this country for the last ten years or more, the material produced for the training of extension workers has been most inadequate. For organizing

the kind of comprehensive training programmes at the various levels indicated above, it would be essential to produce a large amount of literature for the guidance of extension workers, and also enough visual aids which would assist extension workers to carry out their work effectively in the field. The programme of the production of literature may be cooperatively taken up by group of educators and social scientists and it should be published in English at the national level so that translations in regional languages could be undertaken at the state level by the State Institutes of Education. Besides, useful material published in the regional languages may be translated into English for the benefit of all the states.

7. Need for a National Approach

Cultural and professional changes in a traditional society do not easily take place with the help of instruments of change borrowed from advanced societies. If Indian education is to be changed through the instrumentality of extension services, very serious thought will have to be given for evolving concepts and theories of educational development which are rooted in the culture of the Indian people and can, therefore, lead to a smooth transition of traditional educational practices towards modernity. Social and educational changes are inextricably woven together and extension services which do not take these factors into account have very little chance to be successful.

XVII TRAINING FOR IN-SERVICE EDUCATION WORK

Introduction

Though systematic organised educational extension in the country is of recent origin, it has carved out an important place in the educational development of the country. This has given a great deal of impetus to the spread of new ideas and practices and considerable innovative and experimental work on the part of teachers, through in-service education and other extension services provided for the professional growth of teachers. It is this recognition that has led the Education Commission to observe:

"In all professions there is a need to provide further training and special courses of study, on a continuing basis, after initial professional preparation. The need is most urgent in the teaching profession because of the rapid advance in all fields of knowledge and continuing evolution of pedagogical theory and practice. The

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programme will have to be developed through a number of agencies." It further adds: "Very little is being done for the in-service education of primary teachers. This programme needs great emphasis. With regard to secondary teachers, one of the most recent developments is the organisation of summer institutes and the role played therein by the universities. These will have far-reaching consequences on the whole field of teacher education. The programme needs very large expansion and has to become an integral part of the annual work of the universities and schools".*

So far extension work has been predominantly in the area of instructional programmes. This probably was an appropriate arrangement, when the potentialities of educational extension and the capacities of extension workers were not fully known. But in the changed context, where education has to play a crucial role in the development of the country in all aspects, economic, social, political and cultural, it is important for an extension worker to be sensitive to the numerous factors that affect the teaching process. Chitra Naik has rightly observed, when she says, "Such factors as wastage, stagnation, student-indiscipline, lack of direction and guidance from administrators and supervisors, interference by social and political pressure groups, out-of-date text-books, the rule of thumb manner of constructing the curriculum, ambivalent feelings of society towards the role of teachers with their status and service conditions, divorce between educational planning and educational provision, contrary pulls of the unrealistic traditional training programmes of our training colleges and movements for the modernization of teaching, conflict between traditions of liberal education and the demands of technological advances — all

* *Report of the Education Commission*—1964-66, (Ministry of Education, Govt. of India, 1966) pp. 84-85.

these and many more such factors operate very widely and reduce the effectiveness of school education". Therefore, the extension worker cannot confine himself to work in the area of teaching skills alone. He has to take into account the various forces at work and help teachers to build a better image of themselves and their responsibilities.

So far, we have looked upon co-ordinators working in extension services departments in the training colleges as the only extension workers. A close look at the programmes and activities of agencies such as State Institutes of Education, State Evaluation Units, State Guidance Bureaux, Science Education Units, etc. will show that a large number of people are doing extension work and it is necessary for us to recognise the need for training such personnel also for effective extension work. With the growth that has already taken place and the expansion that will come in the near future, the demand for a large number of extension workers will increase. The experience we had in organising extension has shown that educational extension requires certain kinds of skills and competence which are peculiar to the roles of extension workers.

Roles of an Extension Worker

As an agent of change: An extension worker is primarily an "agent of change". He tries to bring about desirable changes. These changes may involve changes in content or methods of teaching or organisation and administration. What makes this task complex and difficult is that more often change in one involves changes in others also. Added to this are the problems related to changing the people involved in this process. Such persons include teachers, headmasters and educational administrators. Therefore, he has to keep constantly in view the characteristics of the

change to be brought about, the processes of bringing about the change and the interaction between the two.

In assuming this role as a change agent, the extension worker acts as an *initiator* of change. He initiates a new idea, a new programme or a new practice by creating the climate for change. This involves locating the key persons, acquainting them with what is new and making them willing to accept the change. Having initiated it, he assumes the role of a *trainer*. He has to prepare the people who have actually to take up the new idea, the new programme or the new practice. This involves making them thoroughly acquainted with the new idea, developing in them the needed skills and competence to use it, and preparing them to adjust to the new situation brought about by the change. However, his initiating and training may not and more often does not imply automatically that the change has been adopted. Here he has to act as a *facilitator*. Once the forces of change have been released and the personnel have been trained, they have their impact on the environmental factors which need adjustment to facilitate the change. This involves providing or securing the needed materials and support from the higher authorities.

As an instructional leader: The largest group of clientele for educational extension workers is classroom teachers. Their main concern is the teaching-learning process in the classroom. It is the duty of an extension worker to identify their needs and help them in solving their instructional problems and difficulties. He has to provide them with information about new developments related to their subjects, guidance and support to facilitate their being made use of by classroom teachers.

As a planner and co-ordinator of extension programmes: The extension worker has to play a crucial role

in school improvement programmes. Such a programme requires planned and systematic work. It is the job of the extension worker to work with schools in their developing school improvement plans and implementing them. In this task, he has to develop the leadership role of headmasters, prepare them for working closely with the school faculty and setting up realistic targets of improvement. Having done this, the extension worker has to assume considerable responsibility in securing the approval, support and encouragement from the inspecting officer. Besides, his own programmes and activities should be developed in a co-ordinated manner so that the work done by the school staff under the leadership of headmasters, the support provided by the inspecting officers and the programmes of extension planned by him — all combined together facilitate the schools to bring about a planned change resulting in recognisable improvement in the school practices. The way in which the extension worker initiates such a process, develops strategies to overcome the barriers to change and improvement, organises his own work to lend support to school improvement plans will determine the degree of success in his planning and co-ordination.

As an educational administrator: By and large, our educational administrators have played so far a "maintenance role". This has to some extent inhibited creative thinking and development. It is the job of the co-ordinator to operate in a different role and demonstrate the effectiveness of the "developmental role" of an educational administrator. This is significant particularly when an extension worker does not operate from a position of power and authority. His power is the power of persuation and his authority is the quality of the programme and the effectiveness of his service to teachers and other school personnel.

As a motivator of teaching personnel: The teachers

of today work under very many handicaps and limitations. Many of them have entered the profession as a "last resort" and not by choice. Their status, emoluments and working conditions are far from satisfactory. They have to work constantly under various kinds of political and social pressures. They often complain of rigid curriculum, poor-quality textbooks and inadequate support from administration. This makes the job of an extension worker difficult to build up the needed motivation among teachers for professional growth. In spite of all these handicaps, the sensitivity of an extension worker will show him many bright sparks in teachers to kindle their motivation for professional growth and better teaching performance.

In a way, as an agent of change, an extension worker is a *salesman*, a salesman not of a product or a service; he is a salesman of a new educational idea, new programme or a new practice. Convincing the consumer, the teacher, requires most of the skills that are required of a salesman.

As an instructional leader, he has to be well informed of new developments in the field of education. It is true that he cannot have mastery over all the intricacies of a new development. But he should be familiar enough to relate it to existing school programmes and classroom practices. He should be able to locate the places, where he could go or direct teachers for further help to influence their own programmes and practices.

As an educational planner, the extension worker should be highly skilled in diagnosis so that he can identify the problems which teachers and school administrators face. A clear diagnosis of problems and use of new ideas, programmes and techniques to tackle those problems is an essential ingredient of successful and effective extension work.

Needed Areas of Training Experience

It is obvious that certain kinds of special competencies and skills are needed for an effective extension worker.

An extension worker has to be highly skilled in the art of diagnosis. He should not only identify problems and needs of schools but also identify key persons with whom he should work in assisting schools. He should be able to locate key persons who could take up new ideas, new programmes and new developments and also influence others.

He should be able to organise group work and develop programmes for groups of people. This requires a good understanding of group dynamics.

An extension worker works with people and therefore should be highly skilled in dealing with problems of human relations. He has a great deal of responsibility in motivating teachers. He should be skilled in pursuading people and encouraging them in their pursuit for professional growth.

An extension worker should be a good organiser of educational programmes. Recognising the pressures and pulls under which teachers and administrators work and reconciling different view points and yet maintaining the effectiveness of programmes requires considerable talent and skill. This requires a good understanding of the social processes and their influences on educational development. The extension worker must equip himself with skills and the sensitivity to deal with factors which affect the competence and morale of teachers and educational administrators.

An extension worker also works with adults — adults who are professional people. Working with them requires a proper understanding of the attitudes and behaviour of adults who are professional people.

In actual work with teachers and school administrators,

an extension worker adopts various techniques which include training courses, seminars and workshops, study circles, small group discussions, school visits, production and supply of publications, library, audio-visual and consultative services, etc. Besides familiarity with these techniques, what is required is the competence in the selection of appropriate techniques for appropriate purposes and the use of different techniques in combination for effective results. As the techniques of extension work are discussed at length in other papers, the other crucial areas for training extension workers are discussed here. These areas include: leadership training, training in human relations, training in motivation and group dynamics.

LEADERSHIP TRAINING: An extension worker besides functioning in leadership capacities himself, also has a major responsibility of developing leadership qualities among a number of persons with whom he works. One of the most important requirements is a clear understanding of *leadership*. Different theories have been advanced regarding what constitutes good leadership. Among these are: the trait approach; the situational approach; and functional leadership approach. In the three approaches and in the studies relating to these, the focus is on study of characteristics of leaders, leader's behaviour in different situations and functions of persons in positions of leadership. One common feature in all these is that an individual as the leader is the focus. In the styles of leadership approach, though the location of decision-making function is studied under autocratic, laissez-faire and democratic set-up, the focus is still on the individual leadership. A significant departure in the focus is in the functional leadership approach. Here the focus is the performance of leadership functions under various conditions by the group. This approach incorporates the other approaches except the trait concept. Here, the leadership

is not centered in one individual but shared by different members of the group on a functional basis. Studies and experiments have shown that groups which distribute leadership functions get "better" results (e.g., greater productivity and higher morale). This is highly significant for an extension worker who deals with groups of persons with varying duties and responsibilities and operating under varying sets of conditions but are brought together for a common group task. The basic elements towards which a leader should give attention for his growth and development have been listed by G. L. Lippitt. They are: insight into self, a medium of personal security, appropriate sensitivity to situations, diagnostic ability, flexibility in one's role relationships, rational relationships through application of scientific problem solving and self-actualisation and continuous learning.

It is necessary for the extension worker himself to cultivate the qualities of leadership in the first instance and an effective programme of training should take into account this important facet of his preparation.

TRAINING IN HUMAN RELATIONS: This is intended to bring about "increased sensitivity and skills in relation to social-psychological phenomena occuring in interpersonal, group, and organisational situations" according to Mathew Miles. There may be many diverse training procedures for this purpose. An interesting technique developed by the National Training Laboratories in the United States is the training group (or, using the American term, T Group) "in which members study the behaviour occuring during the process of development from an unstructured beginning to a reasonably stable immature social system".

The staff person (trainer) associated with the group does not attempt to exert control over group movements but usually restricts his participation to interpretative commentary, analysis and procedural help.

Other training procedures used in human relations training laboratories include: (a) replication of well-known experiments in the small-group literature, with immediate data analysis and generalisation; (b) organisational (or community) simulation, lasting from a few hours to several days; (c) the analysis of tape recordings of a group in meetings; (d) consultation in the home organisation; (e) lectures on social-psychological theory; (f) general sessions, using a wide variety of large meeting technology, such as buzz groups, listening panels, role-played demonstrations, and the like; (g) practice sessions which permit the improvement of particular social skills; (h) exercises involving competition, conflict and cooperation among groups; (i) "instrumented" T groups without trainers, where members analyse their own functioning with the help of rating scales.

A successful extension worker will invariably have the most cordial working relationships with a large number of persons with whom he works. In this process he comes across people with varying background of competencies and attitudes. In order to influence them with new ideas he has to be highly sensitive to their feelings and attitudes and highly skilled in handling the problems of interpersonal, group, and organisational situations.

Any programme of training for extension workers is incomplete if this increased sensitivity and skill is not developed. In fact a good training related to this can be designed in such a way, where many of the techniques of extension work such as group discussions, use of tape recorders, role-playing, etc., can be successfully used not only for training but also to demonstrate their effective use.

TRAINING IN MOTIVATION: The chief function of extension workers is to facilitate change through the adoption of new ideas and new practices intended to bring about

significant improvements. This cannot be accomplished unless the persons involved are motivated. More often, extension programmes do not attract the right type of participants, one of the main reasons being the absence of the required motivation on the part of teachers to attend and on the part of school administrators to depute them. It is very important for an effective extension worker to find ways and means of motivating teachers and school administrators. For this, a great deal of work is to be done to develop an awareness of responsibility for professional growth. Effective use has to be made of opportunities for professional support and recognition given to teachers through such programmes as experimental projects and seminar readings.

Besides, in planning programmes and activities of extension, an extension worker has to convince teachers and headmasters of the appropriateness and the realistic nature of programmes and activities organised by them. A close involvement of teachers and headmasters in selecting problems and areas of work, determining the scope of each programme activity, selection and use of resource persons and planning an effective action plan with the necessary follow-up assistance will go a long way in increasing programme effectiveness.

Ultimasely the extension worker has to co-ordinate his plans and efforts in relation to the felt needs of his clientele in order thai they may take more active interest in his activities. Besides this, he has to understand the basic process of motivation so that he might be able to appeal to them in appropriate manner depending upon the clients and the circumstances. The recent research in achievement motivation can help the extension worker a very great deal in upgrading the level of motivation to excel one's own performance and thereby stimulate the headmasters and

teachers to take up projects of school improvement in their own respective areas. To my mind, what is lacking most seriously in our efforts at improvement of the quality of education is the seriousness of purpose rather than inadequacy of knowledge. This is a very important area of training the extension worker if he is to function effectively as a change agent.

GROUP DYNAMICS: A large number of extension activities are organised in groups. Therefore, a good understanding of the dynamics of group behaviour is very essential for an extension worker. Tee dynamics of the group describes the forces in the group situation which are determining the behaviour of the group and its members. This is something which exists in all groups. Every group has its own dynamics and its own pattern of interaction. Therefore, an understanding of the dynamics of group behaviour can help an extension worker, (i) to better understand the nature of the group and the conditions or setting in which the group works, and (2) to select and use the techniques most appropriate for a particular group.

For understanding the group, one should know (1) the kind of members in the group, and the setting in which they are working, (2) motivation and needs of members in the group, (3) principles governing the way in which these affect each other, (4) the skills in recognising the various forces, and (5) how to provide the necessary support for effective group participation.

For selecting appropriate techniques, one should know (1) the type of membership of the group, (2) the task that the group has, (3) the goals set for the group, (4) the real reasons for the group coming together, and (5) the relative efficacy of the techniques for the particular group at a particular time.

Besides training extension workers in understanding the group and the techniques of group work, they also should be acquainted with various factors which facilitate group decisions and methods of improving decision making with groups. Therefore, a good programme of training for extension workers should include training in methods of diagnosis of professional problems of teachers, human relations, motivation, techniques of extension work, educational leadership, group dynamics and organisation of in-service education and other extension programmes and activities. The programme of training provides innumerable opportunities to use the techniques of extension work in the course itself not only to increase its efficiency but also to demonstrate the effectiveness of various techniques. In view of the requirements, it is necessary to develop the programme of training extension workers with the help of competent persons from various fields such as education, psychology, sociology, and other applied social sciences. Even in the conduct of the raining, persons frym those differen: fields have to be involved for effective interdisciplinary preparation of extension workers.

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SECTION FIVE

IN-SERVICE EDUCATION IN DIFFERENT COUNTRIES

The development of in-service education programmes is of recent origin. As such, there are only a few countries where it has been organized on a systematic basis. In most of the places and countries, the ad hoc nature of these programmes is commonly in vogue. This is most characteristic, for example, of India, as it appears from the paper of Dr. Buch in the third section. It may be observed in general that the better organization of the programmes of in-service professional growth goes with the better organization of the educational system as a whole. This can be seen from the paper of Dr. Griffin that Americans have evolved an educational system which provides simultaneously for in-service programmes in all the different areas. Anybody who wants to upgrade his knowledge may do so without much difficulty by attending either evening classes or summer courses. Moreover this alert nation has organized in-service education very effectively through such agencies as, school systems, teacher training institutions, State Departments of Education, Federal Government, professional organizations, and also private foundations. Prof. Roy discusses the growth of in-service education programmes in the U.K. and the present nature and organization of these. The responsibility of in-service education programmes rests in U.K. mainly with the local education authorities, the Ministry of Education, the professional organizations, and the universities.

Dr. Balezin and Abulkhanov describe the Russian measures of in-service teacher education. Large proportion of teachers in service attend evening, night and other part-time courses to get regular degrees. Even teacher education courses are offered in the evening and night classes, except for practice teaching. Moreover, they also have an organized system of correspondence courses in teacher education. In addition to these, the usual ad hoc programmes of the refresher institutes meet their need for in-service professional growth of teachers. Mr. Chilana outlines the distinguishing features of the in-service programme in the Philippines. In this small country the in-service education of the primary teachers seems to be most organized. A number of agencies operate in a systematic and co-ordinated manner to upgrade the professional level of the teachers. The programmes have a variety in them with a system of inbuilt incentives to attract the teachers.

Organized effort for in-service education of teachers began in India in 1955 with the establishment of the All-India Council for Secondary education. Today about 150 extension services departments located in different pedagogical institutions are carrying out these programmes. The details of these are given in the paper of Dr. Buch mentioned above and another by Dr. Palsane in the fourth section.

Looking to the programmes of the different countries, one finds that there is no standardization of procedures in this field, but they do have common targets. There is lot of experimentation with procedures and one can benefit greatly by the experiences of the others.

XVIII IN-SERVICE EDUCATION OF TEACHERS IN THE U.S.A.

W. H. GRIFFIN

In-service education programs for teachers in the United States of America range all the way from formal study during the summer vacation period, study which may count towards a degree, to learning activities involved in the teacher-supervisor relationship on the job in school systems. They include summer study at a college or university, enrolment in extension courses on evenings or week-ends, participation in summer institutes, workshops of various kinds, conferences, study-groups, and curriculum development and school improvement activities carried out during the school year in the school system in which the teacher is employed.

The Organization of American Education

In order to understand the various in-service programs for teachers in the United States of America it is necessary to appreciate how the organization and administration of education

differ from and are similar to what they are in India. To begin with, universities, colleges, secondary and elementary schools are not controlled by the national government. Education is considered a state function, as it is in India. Even within the states, actual control of secondary and elementary schools is left to local school districts which range in size from the small rural district which may operate only one school to cities like Chicago and New York which operate schools for hundreds of thousands of children. Each district has a board of education which is usually elected, on a non-political basis, and which is responsible for the operations of the schools in the district. On the average, approximately fifty percent of the school budget comes from local taxes levied by the school board and approved by the voters of the local school district. The actual operations are delegated by the board to a superintendent of schools and a staff of administrators and teachers, all of whom are hired by the board of education. The board sets policy and requires periodic reports from the superintendent. Leadership for experimentation and development of education comes largely from professional organizations of teachers and administrators and from local school districts which carry on their own programs of study, experimentation and research under the leadership of the superintendent of schools and professional personnel employed for this purpose.

Few states directly determine the curriculum, prescribe syllabi or approve textbooks. These matters are for the most part left to each school district. Each school issues its own graduation diplomas (matriculation), although the general requirements for graduation are set by the state. There is no external school leaving examination. College and university entrance requirements are set by the individual institutions of higher education. They vary somewhat, but generally a student makes application to one or more colleges

or universities of his choice and his admission is accepted or rejected on the basis of four kinds of information: (1) his record of success in high school subjects and co-curricular work; (2) the recommendation of his high school principal; (3) the report from a personal interview with college or university admission officials; and, (4) his score on a general achievement and aptitude test administered by the college or university, or by an independent national testing program.

States and the national government from time to time pass legislation sponsoring special programs or emphases. Private organizations and foundations sponsor research and experimentation in terms of their interests in the improvement of education, but their programs depend on the local school districts for cooperation and acceptance.

Approximately ninety-five percent of elementary and secondary schools are public (government) schools. Private organizations are allowed to sponsor their own schools and many do, particularly religious organizations. These schools are inspected by the state but they receive virtually no financial aid from national, state or local governments. Schools sponsored by religious organizations may teach religion.

Teacher Training Programs —Pre-service

Teachers are educated in teachers colleges, multipurpose colleges and universities, and liberal arts colleges, in four-year (bachelor's degree) programs following twelve years of elementary and secondary education. In some liberal arts colleges a fifth year is added during which most of the professional education is given including an extended internship of actual teaching under supervision in a school. Teacher education includes general liberal arts education, specialization

in one or more subject areas, and professional education including practice teaching. The balance among the three components varies from state to state and from subject to subject. Secondary school teachers receive greater subject-matter specialization than do elementary teachers. Certification of teachers is a state responsibility and some states grant provisional certification to persons with less than four years of college or less than the minimum of subject matter specialization or professional education. In such cases teachers are expected to make use of available extension courses and summer sessions to remove shortcomings in their education.

The Need for In-service Education

In-service education opportunities have become more and more necessary for several reasons. In the first place the four year period is increasingly considered inadequate for the complete education and training of teachers in the U.S.A. Doctors, lawyers and other professions require a much longer period of training. Four years may be adequate to give the teacher a well-rounded and deep liberal education. It is inadequate, however, to provide the necessary professional training for teaching one or more secondary school subjects. In addition, foreign language study is frequently neglected in the four year program. Training for participation in curriculum development and the preparation of teaching materials, for community leadership and citizenship responsibilities, for giving guidance to students with unusual problems, for advising student groups in their exrta-curricular activities, is often only partially accomplished.

In the second place, because of the American policy of local control of education, individual schools tend to be somewhat unique and individual in their characteristics. In-service education is necessary for the new teacher to become

acquainted with the philosophy of the school, the objectives felt to be most important for the students of that school, the economic and social factors in the community which influence the school program, the traditions which have been established that give the school its own character, and many other forces affecting the pattern of education. In some countries inspectors take pride in being able to say they can walk into any classroom in their territory and know beforehand what topic is being taught. Such a statement has no meaning in the United States because of the many variations in curriculum from school to school, even though broad similarities exist within the different stages of education due to the national influence of educational professional leadership and the common needs of youth throughout the country.

In the third place, in-service education and training are necessary to enable the teacher to keep up with new knowledge constantly being added to his field, and with newly developed teaching methods, materials and equipment. Today in the fields of science, for instance, the teacher needs considerable help in keeping abreast of new developments. Radically different approaches in the teaching of mathematics are becoming accepted. In the social studies there is a strong trend towards teaching more about Asia, Africa and South America which calls for knowledge and understanding of these areas of the world in which teachers' previous education was lacking. The use of teaching machines in many subjects, the trend towards the making of simple and inexpensive laboratory equipment for use in the teaching of science, the introduction of language laboratory equipment in the teaching of local and foreign languages, are some of the current new developments in teaching which are outside the skills of teachers trained a few years ago. Continuing study and diligent scholarship are required of teachers who want to keep up with new developments in knowledge and teaching.

In the fourth place, teachers in service are faced with many pressing problems which were not or could not be anticipated in their pre-service program of education. In-service programs are often planned to deal directly with these problems. In many cases research is conducted on specific problems by specially trained research staff and with the active cooperation of teachers interested in finding solutions. In some cases teachers are relieved from teaching part or full time to carry on research, the results of which are reported back to other teachers. The teaching of slow learners, discipline, how to motivate students to do their best, how to deal with students with difficulties of emotional adjustment, how to teach particularly complicated ideas in science or mathematics or language, what to do about children who consistently fail to do their home work, how to challenge the most brilliant students, how to make extra-curricular activities really worthwhile, these are some of the very many problems teachers face individually or as a group. In-service study of such problems provides the best setting in which to learn how to solve them because specific situations can be studied and dealt with, while in pre-service training theoretical solutions and generalizations only are possible.

Assumptions Underlying In-service Education

Historically, in-service education of teachers has not followed a uniform pattern of growth. Three stages can be discerned however, in retrospect. Early in the present century there came a rapid expansion in the number of schools, and administrators were faced with the task of helping poorly educated teachers to learn quickly what they were expected to teach and how they might go about teaching it. The objective here was to help the teacher stay ahead of the

class. A second stage was characterized by the making of detailed courses of study by school system administrators and curriculum workers. Teachers were expected to follow these courses of study handed down to them by their superiors.

A third stage is currently in practice in many leading school systems and it may be called the "professional team" approach to in-service education. The professional team is made up of teachers, administrators and curriculum personnel. Assumptions underlying this approach are clearly set forth by Chandler and Petty* as follows:

"The first desirable assumption is that all members of the professional staff need to grow in service. An examination of early practices reveals that teachers alone had in-service activities 'provided' by the school and community. This approach contrasts sharply with the modern conception, which gives direction to cooperatively developed in-service activities involving supervisors and administrators as well as teachers.

Secondly, it is desirable to assume that the school's curriculum derives from thorough and reliable analyses of society and the personal-cultural needs of individual pupils. Such analyses can be made only when the best thinking of all staff members is brought to bear on the curriculum development process.

A third assumption flows from the second: curriculum revision or development is in-service education. This assumption seems justified on the ground that intelligent participation in curriculum revision encourages each teacher to grow professionally through study, experimentation, and evaluation of program changes.

Fourth, those who are likely to be affected by decisions

* B. J. Chandler and Paul V. Petty, *Personnel Management in School Administration* (Yonkers-on-Hudson, N.Y.: World Book Co., 1955) pp. 184-186.

should have a share in arriving at those decisions. This assumption has come to be widely accepted as a cardinal principle of educational administration. It should be obvious that effective application of this principle is an indispensable element in the professional team approach to in-service education.

A fifth assumption is that teaching is finally coming to be recognized as a profession. One requirement of further professionalization of teaching is that educational staff members, like doctors and engineers, work together to improve practices on a broad front. This achievement is contingent to a large extent on how successful individual members of the team are in helping others to grow.

A sixth assumption underlying the professional team approach to in-service education is that a direct relationship is necessary between understanding and action. The team approach helps to equip individual teachers with those psychological necessities—sense of security, a feeling of belonging—without which substantial improvement is impossible. In other words, the 'action barrier' must be successfully breached. And it is axiomatic that a team effort will be more successful in breaching it than will uncoordinated efforts of individuals. (The preceding statements should not be interpreted in such a way as to minimize the fact that change in educational practice is an individual matter—that is, significant improvements are realized only as rapidly as individual teachers improve their classroom practices.)

Seventh, in-service education is an integral part of the school system's program. This means that the board of education and the superintendent of schools recognize the importance of professional growth and demonstrate this recognition by making adequate financial and time provisions for in-service activities. In-service education as a part of the

school program also means that activities are developed in the framework of the local situation. The immediate school situation is the source of in-service plans of action and programs designed cooperatively on the local level.

Eighth, and last, the professional team approach contributes to the development of coordinated activities that utilize the intelligent and creative capacities of the entire staff... It will suffice here to note that free inquiry, free discussion, and cooperative efforts characterize high level in-service education and are of fundamental importance."

Who Provides In-service Programs?

(a) INDIVIDUAL SCHOOL SYSTEMS: Individual school systems, with assistance from state departments of education and colleges or universities, provide major leadership for continuing professional growth of teachers. Typically, a school system made up of a dozen elementary schools, five junior high schools and three high schools, would employ a number of personnel whose responsibility would be in-service education of teachers. Among the positions would be a curriculum director, probably an assistant curriculum director, guidance and testing staff, special supervisors for elementary schools in subjects such as art, music, physical education and health, and heads of department in the secondary schools for subject matter areas such as science, social studies, English, etc. The principal of each school is ultimately responsible for what happens in his school, and he may spend considerable time himself in supervisory activities. In small rural school systems which may have no curriculum-supervisory staff of their own, the principal is expected to spend considerable time in supervisory work with teachers and in planning special in-service activities.

He may be assisted by several special supervisors appointed by the county government to help all schools in the county. Programs initiated by school systems include a variety of activities:

(1) Pre-school planning sessions are held during the ten days or one week preceding the opening of school. All teachers are expected to be there and time is spent on planning the curriculum improvement programs for the year. Sometimes a consultant from a college, university or the state department of education assists the faculty in laying plans to work on some aspect of the program such as guidance, citizenship education, reading and writing skills or the development of needed curriculum guides, teacher handbooks or resource units. In such cases the consultant might return to the school system several times during the school year to help the staff follow through on the plans laid in the pre-school conference. Post-school conferences and summer institutes or workshops are sometimes held for similar purposes and to evaluate particular aspects of the school and the in-service programs.

(2) Special programs are increasingly planned for the orientation of new teachers. Part of the pre-school conference might be devoted to the new teachers; in many cases experienced teachers give assistance to the new ones. Throughout the year the principal and supervisory staff spend time with new teachers individually and in groups, helping them to become acquainted with the school and the community and helping them through the first hurdles that face a new teacher whose experience may have been limited to practice teaching. More specifically, the goals of orientation programs (sometimes called programs for induction into teaching) are as follows: (*a*) to help the new teacher establish positive relationships with other teachers, with parents, with community leaders and with students; (*b*) to help the new

teacher become acquainted and adjusted socially in the school and community; (*c*) to help give the inexperienced teacher a sense of security and confidence in his work; (*d*) to acquaint the new teacher with the rules, regulations and routine procedures of the school; (*e*) to acquaint the new teacher with the philosophy, purposes, policies and traditions of the school and its administrators; and, (*f*) to introduce the new teacher to the human and environmental resources of the community which may be useful in his teaching.

(3) Principals and supervisors spend some time in supervisory visits to classrooms to observe teaching, followed by conferences with teachers whose work was observed. Such visits are not for the purpose of inspecting to find fault, to rate the teacher or to render a report to anyone on the teacher's performance. They are for the purpose of becoming sufficiently familiar with the teacher's problems to be of assistance. In the conference with the teacher following classroom visitation, the principal or supervisor may discuss problems, suggest procedures which might improve the teacher's techniques, suggest resources that might be helpful, agree to follow-up a problem through research or consultation with another teacher, or just listen. Friendly interest in the teacher's problems and successes is often of considerable assistance to the insecure teacher and rewarding to the able teacher. The first visit to a teacher's classroom during a school year is often made only on request by the teacher.

(4) Periodic staff meetings are held throughout the year, usually once every week or every two weeks. To some extent these meetings are used for administrative matters. They are also used as a vehicle for in-service training of teachers. A teacher may be asked to report on an unusually promising experimentation in classroom method the teacher has been trying. Another person may report on a professional meeting or conference he attended. Still another may report

on research he was asked to do to find information from existing literature on a particular problem. Common problems are discussed and possible solutions planned.

(5) From time to time special meetings are called to hear speakers thought to be helpful to the teachers. Such speakers may be authorities on teaching or they may be noted lecturers on general topics of interest to any intellectual group. Special meetings might also be called to see a film or listen to a recording which has potential use in teaching. Most school systems have an audio-visual department whose task it is to bring new materials to students at the teacher's request.

(6) Committees of teachers are frequently formed to work on a specific curriculum planning assignment. The assignment may be of a research nature or it may be the preparation of curriculum materials. Many school systems have a continuous program of committee work throughout the school year. Such work is an exgected part of the teacher's responsibility, and an attempt is made by the administration to see that there is an even distribution of such work. Much of the continuous curriculum revision that is characteristic of American education is carried forward by such committees working under the leadership of supervisory personnel, curriculum directors or the principal, and often with the use of resource personnel.

(7) In addition to the above and other in-service activities sponsored by local school districts, teachers and administrators are encouraged to attend and participate in conferences and workshops sponsored by colleges, universities, state departments and private and professional organizations. Travel to foreign countries or within the United States is encouraged for the teachers' general personal growth, and is often planned to learn information directly useful in teaching.

Heavy responsibility for in-service and curriculum improvement programs falls on individual school districts because of the American policy of local control of education. The school system's responsibility is not to follow a state planned and administered program; its responsibility is, rather, to produce the best kind of teaching program it can, making use of resources from various agencies. Although school systems are not authorised to grant credit for in-service work towards a college or university degree, many do give credit which counts towards advancement, salary increase or maintenance of teaching credentials.

(b) INSTITUTIONS FOR TEACHER EDUCATION: Institutions for teacher education have played a major role in helping to improve the professional competence of teachers in service. Their principle contribution has been in the form of summer sessions and extension courses and by organizing conferences, institutes, workshops and study groups. Summer session and extension courses off-campus throughout the year have provided under-graduate courses for teachers who do not yet have a bachelor's degree and, in larger numbers, for teachers interested in additional study towards additional degrees beyond the bachelor's degree. Courses on pedagogy tend to be predominant in summer sessions and extension programs because teachers in service want help on their day-to-day teaching problems. General education and specialization courses are also offered, and the summer session offerings are so planned that a teacher may earn the master's degree from many colleges and universities through attending four or five summer sessions plus a few extension courses and possibly individual research and the preparation of a thesis.

Colleges and universities concerned with teacher education sponsor a variety of short courses, institutes, conferences and study groups, usually without giving degree credit although credit is sometimes given for the short courses and

institutes. These programs are usually focused on the intensive study of specific problem areas in teaching such as: audio-visual aids, child growth and development, better curriculum for the gifted children, economics, art, children's literature, reading problems, speech correction, new science content or newer methods of teaching mathematics.

Teacher education institutions make their professors available as consultants for such in-service programs; these programs are often initiated by a professor in cooperation with the administrators of school systems. In fact, it is more or less expected that the college and university faculty member will leave the campus frequently to help teachers deal with problems in their true setting. He does not tell teachers exactly what to do when, to solve their problems. Rather he serves as a consultant or an adviser in helping teachers to analyze their problems, develop appropriate plans of action, and evaluate results. The consultant services are beneficial to the college or university as well as to the schools. They help to keep the professors up to date on what is happening in schools so that the professors' pre-service courses are less theoretical and more practical.

Many professors also take up research in cooperation with teachers in schools. In many cases action research projects are planned cooperatively by school systems and appropriate consultants from colleges or universities. School systems also call on colleges and universities to provide a team of professors to carry out survey studies of the educational needs of their community. Such surveys are usually carried out in such a way that the school staff and often community members are involved; hence in-service learning for teachers and administrators results.

(c) STATE DEPARTMENTS OF PUBLIC INSTRUCTION: Legal authority over the quality of teacher education

programs in colleges and universities rests with the state departments. Through the standards they set for teacher certification and the innovations they encourage, state departments directly influence in-service programs in school systems. State department supervisors, in their work with schools, encourage school systems to provide teachers with opportunities for professional growth. Separately, and in conjunction with teacher education institutions or school systems, state departments also sponsor conferences of various kinds and stimulate school systems to carry on research activities. They also play a major role in disseminating the results of research and superior teaching practices.

State department supervisors do not inspect schools, as inspection is known in India. Increasingly, they provide assistance to teachers in improving teaching. Most states employ supervisors in the various academic areas such as science, mathematics, language and geography, and in such special fields as home economics, physical education and health, art, and agriculture.

(d) NATIONAL GOVERNMENT INFLUENCE ON IN-SERVICE PROGRAMS: As has been indicated earlier, the national government of the United States does not directly control education. The United States Office of Education exerts considerable leadership on education and carries on research on major national educational problems. Occasionally, to meet a particularly pressing need, national legislation is passed which contributes directly to the improvement of education and indirectly to the establishment of in-service programs for teachers. In recent years such legislation has contributed to new secondary level emphasis on the teaching of foreign languages and new curricula in science and mathematics. In-service institutes for teachers in the new language, science and mathematics programs have resulted.

(e) PROFESSIONAL ORGANIZATIONS: Next to the in-service programs sponsored by individual school systems, professional organizations probably have more influence than any other non-government or government agency in influencing education. The National Education Association and its subsidiary national and state organizations for administrators, curriculum workers and teachers in separate subject fields, sponsor periodic and special conferences, committee activities and publications of a considerable number and variety. Many of the national units of the NEA publish a yearbook dealing with major educational questions. Monthly publications keep teachers and administrators informed about new professional activities, publications, research and ideas in education. Professional organizations other than the NEA exist, and it is not uncommon for a teacher or principal to belong to half-a-dozen such organizations.

(f) PRIVATE ORGANIZATIONS AND FOUNDATIONS: A major influence on education in recent years has come from the foundations established by wealthy industrialists who wish to have their money used after their death for educational and other worthy causes. The Carnegie Foundation, the Rockefeller Foundation and the Ford Foundation are leading among many others. All three of these foundations have made a contribution to the development of India. These organizations have no authority over schools or colleges, but through able and well-meaning leadership they have provided a most useful service to education. The Carnegie Foundation, for instance, has sponsored a national citizenship education program which provided teaching materials for secondary school teachers and organized series of workshops for teachers through regional centers all over the United States. The Ford Foundation has been very much interested in experimentation in teacher education and more efficient teaching

methods including the use of team teaching and teaching machines. The Rockefeller Foundation has contributed generously to improved education for handicapped children.

Private organizations exist for the promotion of certain areas of the curriculum or the teaching of certain ideas. Such organizations sponsor teaching materials and in-service programs for teachers on economic education, citizenship education, human relations, programs for handicapped children, health, alcoholism, safety, to mention only a few. It must be kept in mind that these organizations are private and they have no authority over the schools. It is up to each school system to decide from what sources it takes help in promoting school improvement and in-service teacher education.

Summary

Throughout the above there has been mention of the most common types of in-service activities. Workshops, conferences, institutes and seminars are well-known in India. Summer sessions and extension courses are less well-known. The particular type of activity is not very important in itself. More important is how the activity is used; whether or not it is in response to actual needs of teachers, whether or not good materials are available for study of the problems teachers want to study, whether or not good resource people are available, whether or not the ideas teachers gain from further study and professional development are allowed to make any difference in the program of the school, whether or not follow-up is provided, whether or not the purposes of education are sufficiently broad and flexible as to respond to the efforts of teachers and administrators, through individual and group effort, to find better solutions to the persistent problems and challenges of teaching. The United States

of America does not lack for quantity and variety of programs and activities through which teachers and administrators are helped to grow professionally during their period of actual service in schools. Concern during the next decade will be more and more for using these opportunities more efficiently and in ways that not only upgrade the teachers but also have significantly greater effect on improvement of education. In-service programs for teachers can be a waste of time unless steps are taken to make it possible for teachers to experiment with and use what they learn from them.

XIX IN-SERVICE EDUCATION OF TEACHERS IN THE U. K.

P. K. ROY

Great Britain has a long tradition of further education. Several universities have extra-mural departments which have served a variety of adult students. London County Council and many similar agencies run numerous evening courses not necessarily for teachers. The Royal Institution arranges public lectures regularly for the benefit of those who did not have any scientific education. Further education of teachers is part of this wider picture. At the end of Second World War, Scotland had a very small number of untrained teachers in their schools, both primary and secondary. In the case of England and Wales, the number of untrained teachers was considerable. As a result the Ministry of Education had to organize emergency training programmes for short periods. Even prior to this, England had a system of encouraging untrained teachers to take a certificate or diploma through a variety of part-time

programmes. Oxford, for example used to run a summer course for teachers in service. A teacher who would attend six week's summer school could take an examination leading to Diploma in Education. Such a teacher was required to prepare a long essay on one of the school subjects he was teaching. This would include some of his experience in the field and would reflect his latest reading on the subject. England had another problem so far as secondary schools were concerned. There was a very large number of independent boarding schools where training was imparted on the job. Any graduate from one of the older universities could join an English public school without professional training. The theory behind this practice is that a good headmaster is the most suitable person for training a teacher. Many of the good grammar schools followed the same practice.

During the last two decades the situation has changed and the educators in England have begun to recognise the importance of professional training. As a result the in-service training programmes have become increasingly popular. Such a programme would include two types of teachers: (a) teachers who did not have any previous training, and (b) teachers who are trained but need a refresher course because of the expansion of knowledge in the particular field.

At this stage we may state some of the reasons why in-service education has been given importance by the teacher-educators.

1. The good headmaster who used to give advice and direction to the beginning teachers is no longer able to do so. He finds it increasingly difficult today to spare any time for this purpose. The size of the secondary school has increased and the headmasters are saddled with the variety of routine duties. As such he would like the help of outsiders

like the training college lecturers, inspectors and university teachers in the preparation of teachers.

2. Knowledge in every field has increased. It is not only in the field of science and technology but practically in every area of human eneeavour. We possess much greater knowledge today. There are new methods and techniques developing in the field of teaching. An efficient teacher cannot ignore these newer techniques. If he wants to continue as an efficient teacher, he has to be familiar with the latest trends and methods. A teacher who was trained ten years ago finds that his knowledge is out-dated. He, therefore, has to come in contact with people who are conducting research in the various fields of education.

3. Even in the school, the importance of the specialists is now recognised; teaching of reading and arithmetic is not a simple job. With the increasing knowledge of psychology of the various school subjects, the teacher has to become specialist in selected areas.

4. With the publication of Governmental reports, schools have to make adjustments in the light of the recommendations made in them. One such example is Newsom Report which deals with the problems of Education of the less able children. Training in the colleges is aimed at the average child; it also includes the gifted children. But the Newsom Report which discusses the problem of less able children suggests that some additional preparation is needed for those teachers, who would teach such children.

5. A teacher who has undergone training in a teachers college very often faces new problems in the

classroom. Some of these are such that he needs specialist's help in resolving them. A renewed contact with teacher-educators gives him confidence; he, therefore, feels the need of additional courses whenever it is possible.

The in-service education is organized in Great Britain by a variety of agencies:

(i) LOCAL EDUCATION AUTHORITY: Local Education Authority is concerned with the school education in the area today. The Local Education Authority can appoint trained teachers but such authority finds that it is necessary to provide supplementary courses to the teachers in its schools from time to time. It employs inspectors and subject-ipecialists. They submit proposals for refresher courses annually. These proposals are primarily based on demands for some aspects of a subject. In a certain county the teachers attending training courses regularly during the session 1964-65 was 30%. An additional 30% attended casually. These courses are conducted mainly by inspectors, organizers and teachers employed by Local Education Authority. Sometimes they get help from the inspectors of the Ministry of Education.

(ii) MINISTRY OF EDUCATION: The aim of the Ministry of Education in offering courses for teachers is to help them with newer techniques and methods. The courses offered by the Ministry are very popular and it is possible to select from a large number of applicants. It has also the advantage that it can bring experts from all over the country and it can select teachers from any area. The courses offered by the Ministry are varied. In one year the Ministry of Education offered as many as 83 short-courses attended by a very large number of teachers. About half of the courses were in the subjects of the main school curriculum and about one-third in technical subjects. However there is one draw-

back. In the case of Local Education Authority it is possible to follow-up and see whether the teachers are making use of their training in the classroom. In the case of Ministry's courses such follow-up is not easy.

(iii) TEACHERS ORGANIZATIONS: The National Union of Teachers and the Educational Institute of Scotland provide academic opportunities to their members. Both these organizations publish journals and other literature with a view to helping teachers in their professional work. In addition to these they organize conferences and seminars from time to time. Very often specialist groups are formed in such areas as Mathematics and Geography. They prepare a handbook or memorandum for the use of teachers in their respective fields of study. It is because of this academic work that these professional associations play an important role in educational matters in Great Britain.

(iv) UNIVERSITIES: The universities in Great Britain work through the Institutes of Education in the field of in-service education. These Institutes vary in size. As in the case of University of London Institute of Education there are thirty-four training colleges associated with it and the University of Hull has only two. These Institutes of Education take care of the teachers in the area intended for its supervision; they provide a variety of courses; as in the case of University of Leeds Institute of Education, many short courses are offered for serving teachers. The Institute of Education organizes lectures, courses and conferences which may be classified as follows:

Single Lectures

These are organized on various occasions and well-known authorities in various subjects are invited to speak to the teachers. Members are informed through the Institute.

Courses Not Leading to a Specific Qualification

These courses may range from say six meetings dealing with a specific subject to thirty-two meetings spread over a whole session for the benefit of special groups.

Week-end Courses and Conferences

These are organized around a variety of subjects. Some examples are given below:

a) Intelligence tests and selection for secondary education.
b) Education of the backward children.
c) Problems of organizing a comprehensive school.
d) Mental and diagnostic testing in schools.
e) Freedom in school and society.

Courses Leading to Diplomas

It is also possible to acquire qualifications by attending evening classes in a number of areas. Normally such courses spread over a whole year. They include subjects like education of backward children, religious education, teaching of English as a second language, and so on. In the case of University of London, it is possible for a serving teacher to attend evening classes which lead to the Degree of Master of Arts in Education. University of London has a system of allowing students to take external degrees. Many teachers take advantage of this system and obtain the first degree.

Part-time Courses Available in Adult Education Programmes of Various Universities

In most of these universities where there is an extra-mural department, courses are organized by a staff tutor. Depending on the number of requests received, such departments organize courses for teachers. The New Castle University for example

offers courses leading to 'Diploma in Drama in Education,' and 'Diploma in Education of the Haudicapped Children.' These departments also offer summer courses in a number of subjects. Some courses are very popular among the teachers.

The Teachers not only attend the nearest university but sometimes go out of the country to enrich their experiences. Whenever they have an opportunity of going out, they visit various countries especially for improving their language if they happen to teach a foreign language. They are helped by the various international organizations and professional associations.

The in-service education of teachers is considered extremely important by the educational inspectors and teacher-educators. The programmes have been enriched by the research findings in the field of psychology, sociology and allied fields of study. New courses are being offered in such areas as education of sub-normal children, education of backward children and group dynamics. Teachers in England have come to realise that if they have to make useful contribution to their schools they must keep on improving. Occasionally a teacher may not find adequate opportunities for attending the courses in his neighbourhood. He may have to attend a summer school or he may have to go to a remote university for a full time advanced course.

An English teacher has a tradition of scholarship. He realises that it is only by being interested in wide reading that he can inspire his pupils. He agrees with Tagore, "A teacher can never truly teach unless he is still learning himself. A lamp can never light another lamp unless it continues to burn its own flame."

XX IN-SERVICE EDUCATION IN THE U.S.S.R.

— On the System of Improving School Teachers' Professional Skills

The increasing importance of science and particularly of natural science viz, chemistry, physics, biology and mathematics for the development of the economy and culture of any nation and the ever increasing inflow of scientific data compel every nation of the world to regard as an urgent task giving the students scientific education in addition to education in the humanities. What and how to teach has become one of the key problems of the teaching process.

The problem of teaching the pupils of primary and secondary schools is inseparable from the pre-service and in-service training of teachers or rather, from the attempts at systematically improving their professional skills.

This is explained by the dependence of the cultural and technological progress of society

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on education and in particular, on education in science and mathematics.

The history of Soviet Russia may serve as a convincing example of the part of popular education and its systematic improvement played in developing the economy and culture of the society. Once culturally and technologically backward Russia, owing to the October Socialist Revolution, has achieved magnificent results during the fifty years of existence. Suffice it to mention the achievements in conquering outer space and peaceful application of atomic energy.

The leaders of the Soviet State, with V. I. Lenin at the head, realized very well the significance of popular education and did not spare funds on it even during the difficult years of economic devastation which the country experienced after the First World War and then, the Civil War.

Together with abolishing illiteracy the Soviet State faced the task of reshaping the system of popular education and first of all making it available to all the walks of the population. In the shortest time a new democratic educational system was created equal for all the nationalities of the country and universal compulsory education was introduced for all children of school age, the mother-tongue being used as the medium of instruction. The ways were determined of combining general education with polytechnical education and conditions were created for developing the system of higher education and emergence of the people's intelligentsia.

Particular attention was given to the restoration of the culture of the formally oppressed and backward peoples of the country.

The introduction of seven-year compulsory education (1930) and later, eight-year education (1949) were important stages in the development of the educational system.

Owing to these gigantic steps the total enrolment (elementary, secondary and higher schools) in 1967 was as many as 58·2 millions out of which the enrolment in the elementary and secondary schools alone was 48,468 thousand.

Educating so many students required an enormous effort in training primary and secondary school teachers, the number of whom at present is 2,525 thousand (before the revolution there were only 280 thousand teachers in Russia).

Teachers for primary schools are mainly trained at pedagogical colleges and for secondary schools at pedagogical institutes. Part of the university graduates also go to work at school.

The development of science and the improved methods of teaching make it a necessity to improve systematically the level of knowledge and professional skills of teachers.

In-service Training

The in-service training of teachers is carried out basically in the following three directions:

(a) The theoretical and practical improvement of every teacher in his speciality on the level of the latest achievements in the cultural, scientific and technological fields as well as in production.

(b) Practically teaching the teacher of the advanced pedagogical experience, propaganda of the latest achievements in pedagogics, didactics and methodology.

(c) Ideological and polytechnical training of the teacher.

There exist various forms of teacher in-service training (improving their knowledges). Under the existing law every teacher has to go through in-service training every five years. However, throughout the country, the system of

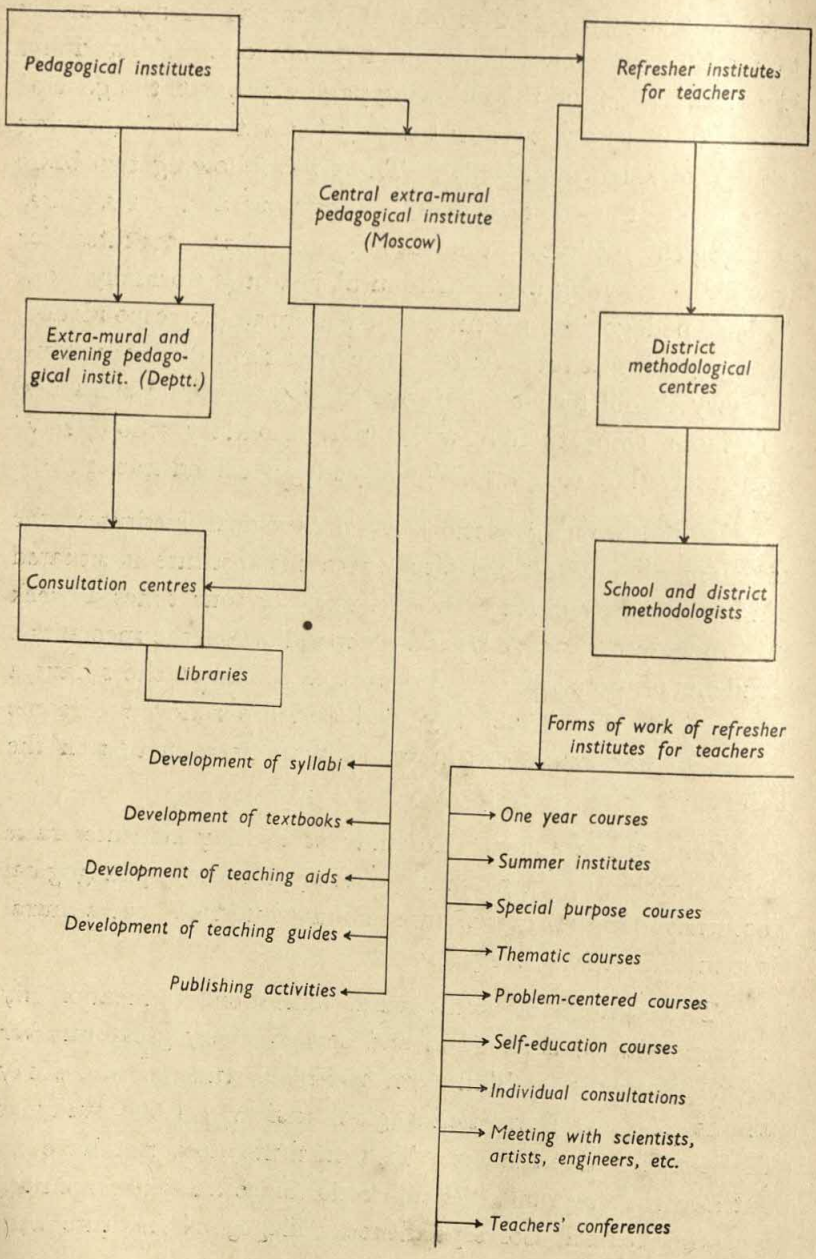
improving the teachers' knowledges and professional skills is shaped in such a way that each of them has an opportunity to improve his knowledges and professional skills daily. The chart, given on the following page, represents the general system of in-service teacher training (or, rather of improving their knowledges and skills). There are following two basic directions; the first direction is evening and extra-mural pedagogical institutes; the second, refresher institutes for teachers. Evening and extra-mural institutes normally work under a pedagogical institute. In extra-mural (correspondence) pedagogical institutes (with a five-year term of instruction) primary school teachers improve their professional skills and also those who, though work in a secondary school, have not received a complete higher pedagogical education.

In the evening sections of pedagogical institutes, the teachers who live in the city where the institute is situated study. Evening classes are held three or four times a week and include five or six periods (depending on the speciality). Students of these sections who work as school teachers have a somewhat reduced teaching load and are relieved of some forms of academic work at school without reduction in the salary.

The same teachers who study at evening institutes raise their level at extra-mural (correspondence) pedagogical institutes. In all there are about hundred extra-mural institutes in the country.

The system of extra-mural education (education by correspondence) is ramified and covers a very great number of school teachers. Thus, out of 12,000 students who study at the Moscow State Pedagogical Institute, 1,600 study at the evening department. This institute does not have an extra-mural (correspondence) section since an entire institute, viz. the Central Correspondence Pedagogical Institute with

Pattern of In-service Training of Teachers in the U.S.S.R.



over 14,000 students is situated in Moscow; at the Rostov-on-the-Don Pedagogical Institute, there are 3,200 students at the main department, 800 at the evening department and more than 4,000 at the correspondence department.

Extra-mural students receive from the institute, free of charge, syllabi, textbooks and instructional aids. Twice a year during school holidays they come to the institute for 30-35 days (all in all). There they attend lectures delivered by the professors of the institute on a selected number of topics of the given course and have an opportunity to get advice on their work. At the same time students have practical work (laboratory work) and attend seminars, take credit tests and examinations. Free travel to the examination session and free accommodation at the students' hostel is provided for the students. Those institutes which have more than forty correspondence students set up consultation centres. Normally they are organized in towns and big district centres. The consultation centres have libraries.

Two or three times a month professors from the institute come to such centres to deliver lectures and help students and give their advice. Those who cannot attend consultation centres have special meetings with the teachers of the institute. In accordance with the syllabus and curriculum, correspondence students receive from the institute assignments which they are to do in written form and submit to the institute for evaluation.

To co-ordinate the entire methodological work at the institutes of education by correspondence, the Central Correspondence Pedagogical Institute is set up in Moscow. This institute takes stock of the work and develops curricula, syllabi, methodological guides, the topics of course papers and assignments for extra-mural students. It is responsible for publishing all these materials.

When the entire programme of instruction is completed school teachers who study at extra-mural institutes take public examinations and if they pass they receive the diploma of the teacher of middle and secondary school.

This institute organizes annual methodological conferences in the subjects where the scientific pedagogical and methodological problems associated with improving the training of the teachers are discussed.

The Refresher Institutes for Teachers

Every regional centre or capital of the autonomous republic has refresher institutes for school teachers where extensive scientific and methodological work is done. These institutes are provided with various instructional and scientific equipment available in the laboratories in physics, chemistry, biology and mathematics as well as in history, Russian and foreign languages. All the laboratories are equipped with tape-recorders, television and cinema; photographs and pictures from magazines and books as well as slides and films can be demonstrated there. These institutes have libraries, collection of films and laboratories for conducting practical classes for teachers in every subject.

In every administrative district of a city and in rural districts there are methodological centres and district methodological groups. Many refresher institutes have shops where work can be done on wood, metal, glass and plastics. In these workshops teachers learn skills in handling various tools and how to work on the machines.

Refresher institutes introduce various forms of work to improve the teachers' knowledge. Thus, the Moscow city institute has the following permanent courses:

1. One-year courses for fresh school teachers: The teachers who need all-round pedagogical assistance, attend these courses, which have separate sections for teachers of chemistry, biology, history, literature and so on. The term of instruction is nine months with seven periods a week.

2. The thematic courses: These courses aim at helping the teacher in dealing with the most difficult key problems. The term here is seven months with classes held twice a month. Biology teachers, for instance, study the problem—"The theoretical basis and the achievements of modern biology".

3. Special purpose courses: These are designed to correct the typical deficiencies in teachers' work revealed while checking the work of schools. The term is two months with attendance of four times a month, six periods each time. The topics discussed at these courses may be different. Biology teachers, for instance have "practical work in agricultural chemistry"; foreign language teachers have "practical work in oral speech and phonetics" with sections in English, French and German, Spanish and some oriental languages (Hindi, Parsian and others).

4. Courses of self-education: The duration is twelve months with attendance once a month, six periods a day.

5. Evening Courses: Evening universities and universities of culture with respective departments help teachers in their professional development.

6. Lectures and consultations: Lectures and consultations in the topics of the syllabus which are to be studied currently and in various problems of school demonstration are arranged regularly for the teachers.

7. Individual consultations: Individual consultations on various problems of practice teaching are arranged.

8. Meetings with experts: Meetings with scientists, writers, workers of industry, agriculturists, artists and so on, and excursions to enterprises, museums, exhibitions, etc. help the teachers to improve their knowledge.

9. Summer camps: One latest and interesting development in improving the knowledge and professional skills of foreign languages teachers is summer camps which are set up in picturesque localities and where foreign language teachers can go to during summer holidays. Here teachers not only rest but also work at improving their knowledges and professional skills under the supervision of pedagogical institutes' teachers and experienced school teachers. This form of work is particularly valuable since it helps to develop teachers' proficiency in a foreign language in the conditions very close to natural language environment. This form of combined work and rest is becoming very popular with foreign language teachers since these camps are organized with the cooperation of trade union commi ttees and the charge is only nominal.

The same pattern of work is valid for the institutes of other regions. Supervision over the work in such institutes is done by the Ministry of Education through the regional, city and district departments of people's education. In addition to their staff members, refresher institutes invite cooperation of scientists from the academy of sciences, professors and other workers of pedagogical institutes, the academy of pedagogical sciences, engineers from factories and plants, and others.

To enable the teacher to take part in the system of improving his professional skills one day off is allocated.

The academy of pedagogical sciences in collaboration with refresher institutes also organizes pedagogical conferences where reporrs are presented by teachers. These conferences

serve as one of the ways for exchange of experience by advanced teachers. The best papers are awarded prizes and are published. For everyday guidance teachers use specialized magazines such as *School Chemistry*, *School Physics* and others. These magazines publish articles written both by scientists and by school teachers.

It should be mentioned that school principals, deputy principals responsible for academic work, instructors in work with machines, etc. also participate in the system of improvement and work on special syllabi.

The entire Soviet system of in-service education of teachers is built in such a way that every teacher has an opportunity and conditions for systematic work at improving the knowledges and professional skills both in his immediate speciality and in questions of methodology and general development.

XXI IN-SERVICE EDUCATION OF PRIMARY TEACHERS IN THE PHILIPPINES

MULKH RAJ CHILANA

Introduction

The Philippines is one of the very few countries in Asia making provision for the in-service education of primary school teachers in an organized way and for a large number of teachers covering all public schools. The history of in-service education in the country may be traced as far back as 1901, when a vacation institute for five weeks' duration was held for the training of over 600 teachers. This was followed by a number of other measures like the vacation assemblies, courses offered by the University of the Philippines, establishment of vacation normal institutes, teachers' institutes of two weeks, entrusting of the responsibility to supervisors and starting of part-time credit courses, etc. It is very interesting to find and in fact it goes to the credit of in-service education programmes there that they have by and large influenced the organization of present

pre-service programmes for teachers in the country. In the words of Aldana, "Two agencies have been responsible for the training of teachers in the public schools: the vacation classes and the normal schools. It can well be said that vacation school work for teacher training in the Philippines furnishes the ideas that later developed and found expression in the normal school curriculum that has been formulated from time to time".[1]

Significant Characteristics of the Programme

Presently the programme of in-service education for primary school teachers in the country is being organized on a part-time as well as full-time basis, through the supervisory staff and the training institutions, in the form of credit courses as well as non-credit courses. Thus the most significant characteristics of the programme are:

1. Universalization of the provision, which is an obvious indication of the fact that the country has realized the importance of in-service education for teachers at this level.

2. Variety of the institutions at service and the diverse nature of courses offered therein. This reveals the sincerity of purpose and deep concern on their behalf to provide facilities to the teachers for their professional growth. Following are different types of services for in-service growth of primary school teachers.

   (i) Extension work in the shape of non-credit

[1] Benigno Aldana, *The Education System of the Philippines* (Manila: University Publishing Co. Inc., 1949) p. 166.

courses offered by supervisors and training institutions.

(ii) Part-time credit courses leading to higher degrees or certificates of efficiency in particular fields.

(iii) Full-time courses for teachers in service to improve their qualifications.

(iv) Pilot schools.

(v) Holding of national conferences.

(vi) Materials production centres.

Agencies of In-service Education

The programmes of in-service education for primary school teachers in the country may be discussed as the roles of different agencies responsible for developing them. These agencies are:

1. Regional In-service Centres Involving the Supervisory Staff
2. Teacher Training Institutions
3. Pilot Schools
4. Vacation Normal Schools
5. National Conferences
6. Materials Production Centres.

Regional In-service Centres Involving Supervisory Staff

The major responsibility for in-service education of primary school teachers especially in terms of non-credit courses lies with the twenty regional in-service centres, established by the Bureau of Public Schools. These centres

have no additional staff. Part-time responsibility of looking after the work of these centres is vested in the respective divisional supervisors in whose circles these centres have been located. They are so strategically located as to cover all the natural and administrative divisions in the country. The supervisory staff at the divisional and district levels has to follow the programmes at their own levels. These programmes of in-service education of teachers as entrusted to the supervisors are organized at four levels:

1. Central Level—The responsibility rests with the supervisory staff of the Bureau of Public Schools.
2. Regional Level—The whole country is divided into twenty service areas, with one centre for each. Divisional supervisor of the division in which a centre is located is overall incharge of the region.
3. Divisional Level—The responsibility is with each Divisional Education Officer.
4. Local Level—The responsibility is with the District Supervisor and the local principals and teachers.

It may be pointed out here that no additional financial allocation has been made for organizing these programmes at divisional and district or local levels. Supervisors have to organize these programmes within their existing resources. Also no additional staff has been provided to any of the above levels. The supervisors at all the levels look after the work of in-service education in addition to their normal supervisory and administrative duties at national level.

The objectives of this programme have been laid down as follows:

1. To promote a well-organized and carefully planned continuing in-service education programme designed to upgrade administrative, supervisory and

instructional competencies of teachers, head teachers, principals, supervisors, and superintendents toward improving the various phases of school work within each service area.

2. To demonstrate instructional, administrative and supervisory techniques and practices which have been found effective and are calculated to meet local needs.
3. To develop for possible adoption, techniques and procedures of internship or practicum in supervision and administration.
4. To tap all resources of assistance, divisional and general office personnel, colleges and universities, civic organizations, teachers professional organizations, publishers of professional books, AID and PCV headquarters, etc., in carrying out a continuing programme of in-service education.
5. To stimulate the people in the preparation of the instructional supervisory and administrative materials that may be printed in the three regional materials production centres.
6. To stimulate the personnel of the in-service education centres in conducting action research and in preparing evaluative instruments and tests.
7. To develop evaluative criteria for appraising the outcomes of the in-service education activities.
8. To prepare brief annual reports on worthwhile activities and practices for dissemination in the service area and in the various regional in-service education centres.

A perusal of the above may give an impression of a well-graded scheme and decentralized responsibility for

organizing the programmes. But an intimate knowledge of their procedure reveals that they have yet to do away with the existing rigidity and over-centralization as far as the programmes of in-service education at this level are concerned. The leadership at present is active at the centre and whatever programmes are held by them at the regional centres are repeated at the divisional and district levels in the echo conferences organized by the respective supervisors at these levels. This kind of repetition was perhaps necessary in the initial stages of the programme. Necessary steps need to be taken in the near future to strengthen independent programmes at the lower levels.

Teacher Training Institutions

The role of normal schools in this respect is four-fold:

1. Extension services to the nearby schools.
2. Assisting supervisory staff in organizing in-service programmes.
3. Part-time credit courses which count for the improvement of educational qualifications.
4. Full-time courses leading to higher degrees.

1. EXTENSION SERVICES: The normal schools are extending their influence and resources to the schools in the neighbourhood in a variety of ways, though this does not come to them as their formal duty. Below are given some of the ways they adopt to assist the schools:

(a) Whenever the teacher-educators are invited by the nearby schools to speak or act as resource persons, they are permitted to go.

(b) Whenever a training institution organizes training courses for teachers of the laboratory schools, teachers from the adjoining schools are allowed to

join if they so desire. In some of the institutions, the days and timings are fixed for such purposes and notified to the teachers of the nearby schools.

(c) Contacts with the schools are maintained through the conduct of research studies. The normal schools have child study centres, which are supposed to be staffed by a child study technician, an educational researcher, an educational statistician, a psychologist and a physician. Each of these staff-members are expected to have only two loads of teaching in the pre-service education programme, amounting to six hours work instead of fifteen hours. This would provide them an opportunity to keep in touch with the actual conditions in the field.

(d) During the period of practice teaching, the supervisors of student teaching organize a number of seminars and meetings for the teachers of cooperating schools to discuss different aspects of student teaching. This certainly helps the in-service growth of the teachers.

(e) Services of the normal school library are allowed to be utilized by the teachers, as that of the science and mathematics centres and also audio-visual apparatus.

2. ASSISTING SUPERVISORY STAFF: The normal schools provide necessary assistance to the supervisors for the organization of in-service courses at the regional and divisional levels. Some of the services generally provided by these institutions are:

(a) audio-visual services, including use of the resource material, giving demonstrations, assistance in preparing the materials, etc;

(b) arranging for the staff members to serve as resource

persons or consultants in the conferences, workshops and seminars;

(c) holding demonstration on good teaching in the classroom and on various phases of economical, healthful and aesthetic living;

(d) science extension services including use of science source material, participation in science fairs and exhibitions and holding demonstrations on the preparation of science equipment from local materials; and

(e) extending facilities of the library and curriculum laboratory.

3. PART-TIME CREDIT COURSES: The credit courses provided by the normal schools, come under the formal type of in-service activities as these constitute an organized programme with budgetary provisions. The courses offered are the same as those for the degrees of B.S.E.Ed. and M.Ed. and so the participants gain credits for completing these courses. The credits can be gained by any or all of the following three ways, namely, by attending:

(a) evening classes,

(b) week-end classes,

(c) summer classes.

While week-end classes and summer classes are held in all the normal schools, evening classes are provided only in Laoag, Bayambang, Cebu and Iloilo. The Baguio Vacation Institute provides only summer courses.

In accordance with the B.P.S. Circular No. 17, s. 1960 the maximum study load in such courses is nine units for undergraduate courses and six units for graduate courses, leading to the Master of Arts in Education degree. There are 163 units to be earned for the degree of B.S.E.Ed. and 36 units for the Master's degree.

For the Master's degree course, one has to write a thesis, besides taking the foundation courses and a major area of study, which is known as the field of concentration. The different study areas offered in this respect are:

(i) Educational Administration
(ii) Educational Supervision
(iii) Guidance
(iv) Physical Education
(v) Teaching English as a Second Language
(vi) Child Development

Certificates of proficiency are awarded to students who have successfully completed the required number of units for each field of concentration.

The staff employed to teach during the vacations in the summer classes is given extra remuneration of 75% of their monthly salary.

The participants are required to pay tuition fees. Each superintendent is, however, requested to select and recommend at least two school officials in his area and send them for special courses like Educational Administration and Supervision. The travelling expenses of these officials are met from the travel allotment of the respective division.

There is no gainsaying the fact that these credit courses offer the best incentives to teachers in the Philippines for their in-service growth.

4. FULL-TIME COURSES: These courses lead to Master's degree in Education or its equivalent. Scholarships are offered to some of the teachers in service to avail of the facilities. These courses include specialization in the field of elementary education.

Pilot Schools

The establishment of the 105 pilot elementary schools

in the country in the year 1959, marks a significant event in the in-service education programme in the Philippines. As most of these schools were identified with the barrios, the main purpose of the activity was to improve rural education. The objectives of the pilot schools in relation to the elementary education improvement sub-project were enumerated as under:

1. To upgrade elementary education in the country through
   (a) the establishment of regional pilot demonstration centres and division pilot demonstration schools and the provision of improved teaching and learning opportunities for teachers and pupils, and
   (b) the extension to these centres and schools of technical assistance and financial aid in the form of instructional materials and aids.
2. To improve supervisory, instructional and administrative practices at all levels (local, provincial and national) through an improved and effective in-service education programme.
3. To assist administrators, supervisors and teachers in upgrading their leadership and teaching competencies in the community school and in their methods of evaluating their effectiveness.
4. To assist in a co-ordinated effort of study of the growth, needs, characteristics and development of the Filipino child.
5. To foster closer community cooperation and relationship and assist in providing better socio-economic opportunities for the community.
6. To develop better communication techniques in and between pilot schools and between them and other

schools in their service areas, including the exchange of appropriate audio-visual aids and other instructional materials prepared locally or developed in the regional materials production centre."[2]

Regarding the administration and supervision of these schools, it was laid down that the division superintendent of schools is the head of the project in the division with the academic supervisor as provincial project executive. A division advisory committee, composed of the superintendent as chairman and the academic supervisor, other division supervisors, district supervisors of the schools involved, and lay leaders as the members, advises and decides on the ways and means of implementing the action programme of the schools concerned, copies of which are to be furnished to the project staff in the Instruction Division. In addition, the committee assists the pilot demonstration centres in organizing activities, planning programmes, making surveys, etc. An elementary school advisory committee, with the district supervisor of the pilot school as chairman, performs duties similar to those of the division advisory committee. The members of this committee are the principal, the chairman of the teaching staff, the P.T.A. president and another lay leader.

In regard to the responsibility of the field, "it is the intention to give more leadership responsibility to the principal of the pilot school than has been given him heretofore, particularly in matters of administration and supervision of the school. The district supervisor will generally serve in an advisory capacity or as a liaison between the division office and the principal's office. The division supervisors will provide consultant services to the principals and teachers

[2] Bureau of Public Schools—Memorandum No. 55, s. 1960, dated June, 1960, p. 1.

of the pilot schools, in addition to their role in providing a favourable climate for the development of the leadership potentials of classroom teachers and even laymen."[3]

These pilot schools were provided three-fold assistance to run efficiently, viz.:

1. *Commodity assistance.* This came from two sources:
   (i) Peso contribution—to meet the operational expenses, equipment and building, etc. (Peso is the currency of the Philippines.)
   (ii) Dollar contribution—to provide equipment and materials for different subject areas like science, industrial arts, language arts, physical education, etc.
2. *Participant training*—to meet the expenses incurred by the teacher scholars sent for training to the United States.
3. *Technical assistance services*—provided by the American experts to guide and supervise the programmes.

Each pilot school in the beginning emphasized on one of the major subject areas, viz., Industrial Arts, Language Arts, Home Economics or Science. But later on many of the schools at the division and other levels started work for the improvement of the total programme in the schools. There are many pilot schools still emphasizing one of the above aspects although working with the improvement of the whole curriculum in the school.

Further technical assistance was provided and participant training in the following areas was granted:

Child growth and development
Supervision of elementary education—science

[3] *Ibid.*, pp. 1-2.

Supervision of elementary education—guidance
Administration and supervision of general elementary education
Educational research
Development of curriculum materials
Teaching English as a second language
Supervision of teaching of science in elementary grades
Leadership in administration and supervision of elementary education
Psychology of elementary school subjects and exceptional children
Leadership training in administration and supervision of home economics
Child study and development
Leadership training in organization and supervision of industrial arts
Administration and supervision of the schools
Supervision of science education
Guidance and counselling
Co-ordination of state college
Natural science
Textbook illustrations.

The pilot schools assumed special significance in 1963 when the B.P.S. AID regional in-service education centres as discussed earlier were started; these schools are being used now by them as demonstration centres and services of teachers in these schools are utilized as resource personnel in programmes of in-service education at divisional and regional levels.

The general office in the Bureau of Public Schools issues a bi-monthly newsletter to report the significant efforts of these schools, which also includes useful articles from the administrators and educationists for the benefit of teachers in these schools.

It may be safely opined that these schools play an important role in demonstrating good practices to the neighbouring schools and community members. This is done in a number of ways:

1. Teachers of nearby schools gather for their in-service education programmes in these schools.
2. Principal and staff of pilot schools visit the nearby schools for providing on the spot consultation.
3. Staff of pilot schools act as resource persons in the programmes of local schools.
4. They serve as laboratory and demonstration centres in the area.

Thus a pilot school in the Philippines is an independent unit for the purpose of planning and implementing its programmes. It has an advisory committee at local level also consisting of the supervisors, community members, teachers and the specialists concerned, to help in planning, implementing and evaluating the programmes.

Vacation Normal Schools

As provided in other training institutions, arrangements for vacation courses have also been made in a special vacation normal school set up at Baguio, one of the most attractive hill stations in the country.

Though the courses and conditions for admission to this institute are the same as those of the normal schools, the idea of locating such an institute at a hill station provides temptations for teachers and administrators to go in for in-service education and professional and academic growth. In fact it provides the teachers with an opportunity to have a good holiday and also to get course credits.

Encouraged by the good work done, by this school, they are planning to open more such institutions. This will provide an opportunity to teachers to visit other parts of the country, which in it-self will be a good opportunity for learning about their country.

National Conferences

Another significant feature of the in-service education programmes in the country is the holding of national conferences for the improvement of primary teacher education. In the conferences organized so far, the following themes have been taken up:

1. Desirable teacher education curricula in the Philippines.
2. Strengthening the leadership role of teacher education for better living.
3. Further vitalizing teacher education for better living.
4. Upgrading instructional practice in teacher education institutions.
5. Defining the assessment instruments and record forms being used in public teacher education institutions.
6. A review of the progress of the long-range programme for teacher education.
7. A re-examination of the student-teaching programme of the teacher education institutes under the Bureau of Public Schools.
8. Improving graduate education in the government teacher education institutions.

All the normal schools participate in these conferences. Each of them is asked well in advance to prepare a paper on a particular topic to initiate discussion. Educators from

the private institutions are also invited. As these conferences are organized by the Bureau of Public Schools, there is not much of difficulty in following up the decisions of these conferences.

Materials Production Centres

Another organization which has very much affected the programmes of in-service education is the establishment of Materials Production Centres at three places, one each in the three regions of the country.

The centres have been provided with modern equipment and technical staff, meeting the regional needs for textbooks, guides and other materials for teachers and students in the area.

They get their materials from the field schools, the regional in-service education centres and the Bureau of Public Schools.

Before the starting of the regional in-service education centres in 1963 these centres were used as national in-service education centres.

Conclusion

The whole programme of in-service education of primary teachers in the Philippines is a very organized and systematic one. A number of agencies are entrusted with specific in-service activities. The opportunities that are available to an average primary school teacher provide him with an option to choose from a variety of courses—part-time or full-time. The implications of this programme for the extension education in India are plenty and worth serious attention.

SECTION SIX

EVALUATION OF THE IN-SERVICE PROGRAMME

Any departure from an accepted routine is mostly purposeful. Introduction of the in-service education programmes in India had a specific purpose of improving the quality of teachers and thereby the quality of education. Whether the purpose was achieved or not remains to be judged. Studies conducted in foreign countries point to the fact that such programmes, if properly administered and organized, do result in tangible improvements. A few studies conducted on extension work in India are listed in the bibliography. However, systematic evaluation by an impartial investigator still remains to be done. The Department of Field Services of the NCERT, who is in charge of the extension centres all over India, had once undertaken departmental evaluation of a sample of cases. Mr. Nigam, who has contributed the chapter on evaluation in this section, happened to be a member of the above evaluation team. In the light of his experience, he discusses, who should evaluate, how should evaluation be carried out, what factors should be taken into consideration while evaluating a programme of any agency, etc. He also narrates the way his team had carried out the evaluation work. Dr. (Miss) Vedanayagam had made a study of the impact of the extension training programmes on the schools in the Madras State. She reports the findings of her study based on two questionnaires addressed to the

teachers and the headmasters of a sample of schools. It appears from her paper that there has been some good impact on the schools and the teachers, and by making such 'evaluation of impact' studies, the individual extension centres can greatly enhance the efficiency of their own programmes.

Importance of evaluation cannot be overemphasised. With any new experiment, there has to be a built-in system of continuous evaluation that keeps the experimenter alert and informed as to whether he is on the right track. A similar periodical check by an objective and impartial outside agency or by an efficient professional consultant would go a long way in not only verifying the results of self-evaluation, but in better diagnosing the problems and needs and in better organization of the total in-service education work.

XXII EVALUATION OF EDUCATIONAL EXTENSION

D. S. NIGAM

There is always a need to do stock-taking periodically of accomplishments and failures of any programme. This would be equally, if not more, true with regard to the movement of extension education for educational personnel in this country. The intangible nature of the 'human' objectives and the unpredictability of the results in regard to them make evaluation of the programme so necessary not only to see where success is being achieved and mistakes committed so that the former can be multiplied and the latter avoided, but more to observe the long-term trends developing or failing to develop as a result of the programme, and the reasons for the same.

Evaluation, therefore, is not merely the assessment of the accomplishments in the substantive field of the programme, but goes farther to find out what impact the programme activities in these substantive fields are having on

the minds of the men and on the state of the community, judged in terms of the human objectives of the programme. Evaluation has, therefore, to assess both the accomplishments in the substantive fields of the programme, and the results in human terms.

Who Should Evaluate?

Everyone affected by the programme, should be in a position to conduct his own assessment—sponsors as well as the educands. They may however learn from what they have to say about each other.

EVALUATION IN COMMUNITY DEVELOPMENT: In the community development movement, extension has been under continuous scrutiny. A 'Programme Evaluation Organisation' existed in the community development scheme. This organisation was established side by side with the machinery for implementing community development programme. The Programme Evaluation Organisation was independent of the implementation branch. The reason for this was stated by Professor Karve, the first Director of the Programme Evaluation Organisation: "Previously India had followed the British practice of appointing committees and commissions for post-facto enquiry. On this occasion, however, it was felt that nationally and internationally so much was at stake, both for democracy as a pattern of life and for the production of welfare and progress of the people, as a social and economic objective, that we could not rely any longer on a post-facto finding. A current evaluation was considered to be an essential aid to policy-making, as well as its implementation. The organisation and methods of evaluation, therefore, had to be conceived without much benefit of precedent and more or less under compulsion of the circumstances of the time."

The Programme Evaluation Organisation has been doing current evaluation of the programme. But in addition, there has been periodical evaluation of the programmes by other individuals and committees.

An important realization, however, has been that there should be self-evaluation by workers at all levels. The workers have to develop and maintain a critical and analytical attitude about themselves, and about programmes; and they must go on asking themselves such questions as: "Am I doing my work in the best possible manner? How good are the methods and techniques I am following and are there better ones to learn? What effect is the programme having on the people and is that what is aimed at? Do I understand the minds of the villagers and their problems well enough, and does the programme take these into account well enough?" This kind of evaluation has to be done by the staff, individually and also jointly.

EVALUATION IN EDUCATIONAL EXTENSION: A conference of honorary directors and co-ordinators of extension services departments attached to secondary training colleges, held in the year 1962, also expressed the same view. It made the following recommendations:

(i) There should be continuous evaluation of the programme of each Extension Centre in order to find out how far the main objectives for the establishment of the Centres were achieved, and also to locate the obstacles that hinder their achievement. Activities and programmes of the centre should be assessed periodically by the Co-ordinator by means of some tools like questionnaire for participants in each activity and by getting the views and opinions of other persons connected with the activities of the Centre.

(ii) The question of the assessment of the Centre should be taken up by a suitable assessment team and if a Centre was not found effective enough on certain well recognised criteria, sufficient notice should be given to the Centre to rectify the short-comings. The work of the Centre should be reviewed again before final action is taken.

STATISTICS, RESEARCH, AND CASE STUDIES: Evaluation is helped by maintaining certain periodical statistics. But there is always difficulty in having accuracy and reliability in statistics. In addition, there are also difficulties in forming correct concepts, and judging the sufficiency of the items included.

Various organisations have been taking up research studies on special topics which aid the over-all evaluation. These studies are, generally important in themselves, as they go deep into the phenomena. They are prepared in terms of basic objectives and with reference to what can be reasonably expected in any period of time. Such studies can be initiated with respect to a number of topics in the field of extension work in secondary education, viz. utilization of audio-visual aids, library services, experimental projects, seminar readings, publications, diffusion of tested practices, development of instructional material, utilization of programme funds, utilization of jeep, resource personnel, honorary directors, etc.

Case studies also helpfully contribute towards understanding of the progress of the programme. In case studies the emphasis has to be on relating cause and effects where this seems possible, to indicate what variables seem associated with each other, and even to state findings about processes involved that may have wider applicability than the one case being analysed.

How Over-all Evaluation Should Be Done?

Evaluation may be done by examining both the institutions and the personnel involved in the extension work as well as the programmes undertaken by them. The personnel and institutions involved in the work will include:

1. (a) Organisers of the programmes including the honorary directors, co-ordinators from the local level and the officials concerned at the national level working in the National Council of Educational Research and Training.
   (b) Officers working in the State Departments of Education.
   (c) Professional organisations.
   (d) Other organisations such as political and social organisations.
2. Resource personnel, including training college staff, retired educationists, inspectorate, headmasters and senior teachers.
3. Educands, including school teachers and headmasters.

The programmes may be evaluated in two ways, viz: (1) the gestalt approach i.e. comprehending the totality, and (2) in terms of individual programmes and activities, and thereafter working out a totality of view.

In fact both the approaches may be tried and differences, if any, in the two results considered, and evaluation repeated till insignificant difference is left.

Evidence on these may be obtained by a scrutiny of documentary evidence, or obtaining it by a questionnaire, or it could be sought through interviews or by making observations. A certain degree of objectivity aud precision may be obtainable, if norms for the functioning of the personnel

or norms regarding nature of activities and programmes or their expected impact on the school could be worked out. It may also be helpful if (i) the over-all general objectives of the scheme, (ii) the behaviour pattern of the personnel, and (iii) the goals to be achieved in the products, were first accurately conceived.

Significant Issues in Evaluation

There are some fundamental issues which any evaluating agency will have to consider while assessing the extension work. These are:

1. *Sponsoring Agencies*

Who assumes the responsibility for in-service education programmes and to what extent? What have been found to be their potentialities and what have been their limitations? Some of the important sponsoring agencies are:

(i) National agencies like N.C.E.R.T. or U.G.C.

(ii) State Departments of Education, Boards of Secondary Education.

(iii) Institutions for teacher education.

(iv) Specialised agencies like (a) extension services departments, (b) guidance bureaus, audio-visual units, etc.

(v) Professional organisations.

(vi) Voluntary school groups.

The competence of the sponsoring agency may be judged on the following criteria:

(i) Is the agency for in-service education up-to-date in its knowledge of latest trends in subject areas and teaching practices?

(ii) Does it understand clearly its functions?

(iii) Does it have qualified staff personnel for extension work?

(iv) Does it have required facilities to carry out its programmes?

2. *Administrators in the School or in the School System*

How far the administrators in the school and in the administrative ladder have assumed professional leadership and responsibility for the in-service growth of teachers, will be one of the major criteria for the evaluating agency. Other points may be:

Does the administrator of the sponsoring institution act as initiator, as stimulator, as facilitator, as interpreter, as co-ordinator, and as evaluator of the programme? Does the school provide funds for the in-service education of its teachers in its regular budget?

3. *Building up of Channels of Communication*

(i) Does the in-service programme try to build effective channels of communication in the field of its operation?

(ii) Does it provide state-wide or nation-wide forums for exchange of ideas?

(iii) Does it encourage systematic sharing of professional work and mutual cooperation particularly in the field of developing units of new material or trying out new programmes?

4. *Planning and Implementation Practices—Determination of Norms*

(i) Has the extension agency ever made a survey of developmental needs of education in India?

(ii) Does the in-service education agency even attempt to survey the problems of school society?

(iii) Does it make a continuous study of the needs of teachers in its areas?

(iv) Does it plan its year's work in consultation with teachers?

(v) Has it planned the in-service education programme on the basis of the above information?

5. *Change in the Teacher*

(A) Attitudes

(i) Do the teachers consider the help given by extension centres as valuable.

(ii) How sensitive or resistant (if not both) is the teacher to improving his teaching practices?

(iii) How flexible is his attitude toward change in terms of his present teaching situation (toward learners, facilities, methods, and materials)?

(B) Motivation

How intrinsically motivated is he toward participation in in-service education activities?

(C) Work participation

(i) Does the teacher identify and use a wide variety of professional aids—such as associations, institutions, courses, publications, journals, etc. for his in-service growth?

(ii) Does he participate in curriculum planning and building of better programmes?

(iii) Does he provide ideas and assistance to other subject matter specialists in developing correlated or integrated approaches?

(iv) Does he nurture wholesome working relationships with other school personnel?

(v) Does the teacher adopt experimental attitude in solving his problems?

(D) SCHOLARSHIP DRIVE

Does he continue to strengthen professional practices like reading, writing, research, etc.?

(E) MORALE OF TEACHERS

Does in-service education programme result in better morale among teaching personnel?

6. *Follow-up*

Are the in-service education activities properly followed-up to evaluate their outcomes?

7. *Impact on Pupils*

Perhaps the most significant test of in-service education programme will be how far they have succeeded in improved development of the pupils.*

An Illustrative Assessment Operation in the Field of Educational Extension

It may be useful to examine the scheme adopted by the Department of Field Services (then known as Directorate of Extension Programmes for Secondary Education) for assessing the work of the extension services centres/units working under its control.

*An example of the assessment of impact of extension work on education is described in the paper by Miss Vedanayagam.

Assessment Team

The assessment work was carried out by sixteen assessment teams, one for each state. Each team had five members:

(1) Director of Education/Public Instruction or his representative.

(2) An educationist from the state nominated by the Director of Education/Public Instruction of the state.

(3) A representative from the N.C.E.R.T.

(4) A representative from the Teachers College Columbia University Team working with the National Institute of Education.

(5) Field Adviser (Extension) from the Department of Field Services (DFS).

Terms of Reference

The following were the terms of reference:

(1) (a) To assess the impact of the extension programme on the work of the teachers college.

(b) To assess the impact of the extension services on the schools and teachers.

(2) To find the impact on the policies, procedures and practices of State Department of Education as a collective outcome.

(3) To assess the strength, and weaknesses of the programme.

(4) To analyse the reasons, for success and failure of the programmes, relating to:

(a) Department of Field Services

(b) State Departments of Education and its supervisory staff.

(c) Honorary director, co-ordinator and college faculty.

(d) Schools and school personnel including the principals of the schools.

(5) To suggest remedial measures especially as to the role of the DFS and the State Departments of Education with respect to their responsibility for,

(a) formulation of policies and preparation of programmes,

(b) direction and control,

(c) research,

(d) training of co-ordinators, and

(e) facilitation of programme performance and speeding up of administrative processes.

Brief Outline of the Procedure

The procedure adopted for assessment was as follows:

(1) Preliminary review of answers to questionnaire.*

(2) Meeting at D.P.I.'s office.

(3) Visit to the Centre/Unit.

(a) Interview with the honorary director.

(b) Interview with the co-ordinator.

(c) Interview with the faculty members.

(d) Going round the centre and the college.

(4) Visit to schools.

(a) Interview with the principal.

(b) Interview with the teachers.

(c) Going round the school.

(5) Meeting with a group of headmasters and other educationists.

*A questionnaire was issued by the DFS to all the extension services centres which they had answered and submitted to the conveners of their respective teams in advance for preparatory study.

(6) Meeting of the assessment team at the centre for finalizing the report.

(7) Meeting with the state D.P.I. to discuss the report.

DETAILS OF THE ASSESSMENT WORK

I. Preliminary Meetings of the Assessment Committee

A. *Review of answers to questionnaire*

(a) First estimate of the general status of the centre/unit.

(b) Formulation of supplementary questions.

B. *A review of general set up in the state as found at the time of last assessment, including the following:*

(a) To what extent did the work of the centres/units in the state match with the expectations of the State Department of Education,

(i) in volume,

(ii) in nature of content, and utilization of resource personnel,

(iii) in execution, and administrative policies in follow-up.

(Opinion on these aspects to be considered for each category of activities.)

(b) In what ways had the supervisory staff contributed to the enrichment and effectiveness of the programme, especially the follow-up? What were the standing practices for collaboration and integration of efforts of the supervisory staff and the co-ordinator?

(c) Suggestions made for composition and effective functioning of the advisory committee.

(d) Policies, ease and effectiveness of the procedures of the controlling authorities of the colleges in discharging their responsibilities for the development of the centres/units.

(e) Facilities provided, restrictions imposed, procedures enforced on the school personnel to participate in the programmes.

(f) Had the State Department of Education appointed a liaison officer to have liaison with the DFS and the centres or units? What procedures and practices were recommended to promote this liaison?

II. Visit to Centres/Units

A. *Interview with the honorary director*

(a) What action is taken by the honorary director?

(i) To secure facilities from and enlist greater participation of the State Department of Education and its supervisory staff and the managing body of the college in the development of the programme.

(ii) To enlist better participation of college faculty.

(iii) To enforce better discipline in the staff of the centre.

(b) To what extent the honorary director himself participated in the various programmes of the centre?

(c) What type of assistance is needed from the DFS?

B. *Interview with the co-ordinator*

(a) Acquaintance of the co-ordinator with the theory, philosophy, history and present trends of the programme of extension services in education in India, and its comparative status with that in other countries.

(b) Acquaintance with the history of his own centre, aims and techniques pursued, and their effectiveness.

(c) Acquaintance with the equipment and other material resources of the centre, and their working condition.

(d) Participation secured of state officials, professional organisations and other community resources.

(e) Ability displayed in planning and execution.

(f) Guidance sought and obtained from the DFS.

C. *Interview with the faculty members*

(a) What enrichment did each member derive in his professional practices as a result of his working as a resource personnel?

(b) What practical facilities to the faculty members, would promote their greater participation, without their other work in the college suffering?

(c) For what conditions of work should they be paid extra remuneration?

D. *Going round the centre*

— Physical check up of conditions of equipment and other material resources, inspection of

the library and its organisation, study of the publications of the centre.

III. **Visit to Schools**

A. *Interview with the principal*

(a) His awareness of his responsibility to provide and to promote effective utilization of opportunities for the professional growth of his staff.

(b) Effectiveness of his ways to translate his awareness into practice.

(c) Check on the follow-up.

B. *Interview with the teachers*

(a) What new practices have they adopted as a result of their participation in the activities of the centre?

(b) What modifications would they suggest in volume and nature of the programme of the centre?

(c) What more facilities are practicable, and how can their misuse be prevented?

C. *Going round the school*

— Physical acquaintance with the material products if any, of the in-service programme.

IV. **Meeting with a Group of Headmasters and other Educationists**

A. A general review of the evidence so far collected about the work of the centre.

B. Preparation of a programme of activities for the Fourth Five Year Plan period to promote in-service growth of teachers; estimate of existing resources and future possibilities; administrative measures needed to promote the activities.

V. Meeting of the Assessment Team at the Centre

— Finalizing the report.

Limitations as Acknowledged by the Assessing Agency itself

The assessment programme had many limitations; some of which are listed below:

(1) The impact which the extension services centres make on the schools is not always so tangible as to be seen easily in a brief visit of the assessment team.

(2) There are more than one influence operating in the field and as such it is difficult to find out to what extent the extension services have been the cause of certain improvement.

(3) Judgements of assessment team members were necessarily subjective, and their norms may have been too high, based, as they were, on somewhat hypothetical expectations.

(4) The quality of performance of past co-ordinators and honorary directors could not be judged from what was to be seen currently in each centre or unit.

(5) The questionnaire answered by the present staff of the extension services department depended

for its contents upon the ability and competence of the present staff and extent of their acquaintance with the past work.

A Hope

Evaluation is a very complicated process, yet, if purposive, one of the most rewarding ones. It is too subtle and too difficult to prescribe a fool-proof system. It is however, hoped that personnel involved in this task will study accurately the implications of extension and formulate worthwhile terms of reference and the design of their own technique. Reliance should also not be based on just one formal assessment but it should be the continuous concern of all personnel using variety of techniques.

XXIII IMPACT OF EXTENSION WORK

Introduction

Education in India has received greatly increased emphasis since India gained independence. More funds have been channelled into education and many new programmes have been launched. One of the significant developments was the establishment of the Extension Services Project. At present in-service education is carried out by a number of extension centres and extension units, which are attached to training colleges in all the states of India. The extension centres and units provide continuous year-round in-service programmes for the benefit of teachers, with the main purpose of improving teacher competency and providing for their professional growth. They have played a vital role not only in the in-service education of teachers but also in the reconstruction of secondary education.

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The National Council of Educational Research and Training, under whose fostering care, the extension centres and units carry on their work, has envisaged for the extension services a far greater role than mere in-service training. The Council is encouraging the extension centres and units to detect, evaluate and interpret problems and needs, in terms of practical solutions and workable possibilities. This is a stupendous task for the extension services, but one well worth trying.

PROBLEM: In-service teacher education programme in India was the subject of a research study by the author, who has incorporated in this article some data from her inquiry to show statistically the impact of extension services on secondary schools in India.

The impact of the extension services on the associated schools is multifaceted. The most noticeable improvements have been brought about in the attitude of teachers and heads of schools. As a result of the extension activities, they have come to realise the need for change and improvement in their classroom teaching as well as the importance of professional competence. One aspect of the study was an effort to evaluate the extension services through an appraisal of the participation by teachers and administrators in the extension or in-service activities.

The object of the investigation was to evaluate the extension services through the analysis of:

1. Teacher participation in in-service activities, including intensity of participation, preference of activities and problems and inhibiting factors.

2. Teachers' and administrators' opinions concerning the adequacy of the help and guidance they have received.

3. Teachers' and administrators' expectations and desires in regard to the kind of activities to be organized.

4. Teachers' and administrators' suggestions for the improvement of in-service activities.

PROCEDURE: For use in this investigation, two sets of questionnaires were prepared, one for teachers and the other for administrators. The questionnaires were printed and distributed to 560 teachers and 112 administrators from 112 randomly selected secondary schools in Madras State. Madras State was used as the case for study in this investigation. The secondary schools affiliated to the seven extension centres in Madras State were considered as the 'population' for the purpose of this study, since technically the seven extension centres cover all the secondary schools in Madras State. By a random sampling method, sixteen schools were chosen from each extension centre and questionnaires were completed by five teachers from each of these sixteen schools. The administrators from these schools also completed the questionnaires appropriate to them. Completed questionnaires were returned by 347 teachers and by 69 administrators (62 percent in each case). A total of 91 schools (81 percent) returned the completed questionnaires.

Analysis of Teachers' Questionnaire

The analysis of the teachers' questionnaire, in addition to giving general information about the teachers and their schools, dealt with the teachers' participation in in-service activities, such as workshops, seminars, study circles, science clubs, experimental projects, audio-visual and library service, etc. Some of the other activities are given below in detail.

INTRODUCTION OF NEW TECHNIQUES: The question pertaining to new techniques was framed as follows: What new techniques have you introduced in your classroom teaching as a result of your participation in the extension activities? Five possibilities were given with provision of

space to mention others. The teachers' responses are presented in Table I. Using group methods for teaching classroom subjects was the most popular new technique adopted. Second in order of rank was the technique of using improvised teaching aids. The project method of teaching and new concepts of evaluation in designing classroom test items were the least used techniques. Some of the other new techniques used by the participating teachers were structural approach to the teaching of languages, use of graded sums in Mathematics, library-oriented teaching, and demonstration method.

TABLE I. NUMBER AND PERCENTAGE OF TEACHERS USING NEW TECHNIQUES

NEW TECHNIQUES	NUMBER OF TEACHERS	PERCENT
Group methods in teaching classroom subjects	200	33·5
Use of improvised teaching aids	170	28·5
Developing reading skills	131	21·9
Project method of teaching	51	8·5
New concept of evaluation made use of in designing classroom test items	45	7·6

NEWLY ORGANIZED ACTIVITIES: In addition to introducing new techniques, certain activities were organized in schools as a result of teacher participation in in-service programmes. Teachers' responses as to the activities they organized are given in Table II. A majority of the teachers, 146 or 23·2 percent, had arranged class libraries. A total of 129 teachers, or 20·5 percent, had started clubs in Science, Social Studies, Mathematics and Geography. Improvising audio-visual aids and starting student government attracted 14·5 percent and 16·6 percent respectively of the teachers. The responses for organizing class museums, action research studies and experimental projects were few.

TABLE II. NUMBER AND PERCENTAGE OF TEACHERS WHO HAVE ORGANIZED NEW ACTIVITIES

NEW ACTIVITIES	NUMBER OF TEACHERS	PERCENT
Class libraries	146	23·2
Starting of clubs	129	20·5
Student government	105	16·6
Making improvised audio-visual aids	91	14·5
Class museums	74	11·7
Experimental projects	72	11·4
Action research studies	13	2·1

IMPROVEMENT DUE TO THE USE OF NEW TECHNIQUES: The purpose of question IV A was to find out the areas in which teachers had noticed improvement in their pupils as a result of implementing new techniques. The teachers were requested to evaluate the improvement under three categories; much, some, and none, and their responses are shown in Table III.

TABLE III. TEACHERS' RESPONSES IN REGARD TO THE DEGREE OF IMPROVEMENT NOTICED IN THEIR PUPILS AS A RESULT OF IMPLEMENTING NEW TECHNIQUES

AREA OF IMPROVEMENT	DEGREE OF IMPROVEMENT					
	MUCH		SOME		NONE	
	NUMBER OF RESPONSES	%	NUMBER OF RESPONSES	%	NUMBER OF RESPONSES	%
Encouraging pupil interest	140	26·2	87	15·8	1	4·6
Class discipline	108	20·2	74	13·5	5	22·7
Group work	102	19·2	113	20·2	3	13·6
Practical work	85	15·9	84	15·3	5	22·7
Changes in learning attitude	63	11·9	92	16·8	4	18·2
Achievement as shown by test scores	36	6·7	4	18·2	4	18·2

Much improvement was noticed by teachers in the following areas; encouraging pupil interest, class discipline, and group work. There was some improvement

mainly in changes in learning attitudes. Viewing the three categories, it could be said that there was considerable improvement in group work and encouragement of pupil interest. The least improvement was in achievement as shown by test scores.

SUGGESTIONS FOR GREATER PROGRESS IN PUPILS AS A RESULT OF THE IMPLEMENTATION OF THE NEW TECHNIQUES: From Table IV it was inferred that the majority of teachers were of the opinion that improved facilities, in terms of size of the classroom and laboratory and quality and quantity of equipment, audio-visual aids and books, would help towards greater progress in pupils, especially when new techniques were implemented. Two other suggestions, namely, need for more help from extension staff for adopting new techniques and more time for teacher preparation, had approximately equal number of responses from the teachers. Additional suggestions from some of the teachers for bringing about greater progress in pupils were changes in the system of promotion of pupils from one grade to another, introduction of more internal assessment, and the need for follow-up programmes.

TABLE IV. NUMBER AND PERCENTAGE OF RESPONSES IN REGARD TO SUGGESTIONS FOR GREATER PROGRESS IN PUPILS DUE TO THE IMPLEMENTATION OF THE NEW TECHNIQUES

SUGGESTIONS	NUMBER OF RESPONSES	PERCENT
Improved facilities	209	41·0
Need for more help from extension staff for adopting new techniques	153	30·0
More time for teacher preparation	148	29·0

SUGGESTIONS FOR THE IMPROVEMENT OF IN-SERVICE ACTIVITIES OF THE EXTENSION CENTRES: The last question of the questionnaire was worded thus: Please check your suggestions for making the workshops, seminars, training courses,

and other activities organized by the extension centres more useful to teachers. The responses of the teachers are tabulated in Table V. The teachers were of the opinion that the major need was for more demonstration lessons to be arranged by the extension centres so that new methods and new techniques could be illustrated. They also expressed their desire to have the extension libraries equipped with more books in regional languages. In addition they felt that the extension centres should make greater use of audio-visual aids at the workshops, seminars, and training courses. Approximately 15 percent of the responses were for providing satisfactory arrangements for the payment of travel expenses and daily allowance to the participants. It was noted that there were 137 responses or 13·1 percent for greater cooperation between extension services and State Department of Education.

TABLE V: NUMBER AND PERCENTAGE OF TEACHERS' SUGGESTIONS FOR THE IMPROVEMENT OF EXTENSION ACTIVITIES

SUGGESTIONS	NUMBER	PERCENT
More demonstration lessons	203	19·4
Books in regional languages	177	16·9
Greater use of audio-visual aids	157	15·0
Satisfactory arrangements for the payment of allowances	152	14·5
Greater cooperation between extension services and State Department of Education	137	13·1
Increase of activities at centres	99	9·4
Increase the intensive types of activities	97	9·3
Incentives	26	2·4

In the case of incentives, suggestions were of two kinds. One type of incentive was attendance requirement in in-service activities to be fulfilled within a period of five years. Increase in salary was the second type suggested but the criteria to base the increase were not stated.

Additional suggestions given by some of the teachers for improving the usefulness of in-service activities are as follows:

(1) Extension centres to be kept open for an hour or so either before or after school hours. (2) More training courses to be organized mainly for secondary grade teachers who teach grades five to seven or eight.

Analysis of Administrators' Questionnaire

The administrators' participation and their opinions concerning in-service activities are analyzed from their responses for 10 questions in the questionnaire.

PARTICIPATION IN THE MAJOR SERVICES OF THE EXTENSION CENTRES: A list of the major services offered by the extension services was given in the second question and the administrators were asked to check the ones they took advantage of. The administrator's responses in regard to the services they utilized are given in Table VI.

TABLE VI. DISTRIBUTION OF ADMINISTRATORS' RESPONSES CONCERNING THE ADVANTAGES DERIVED FROM THE MAJOR SERVICES OF THE EXTENSION CENTRES

MAJOR SERVICES	NUMBER OF RESPONSES	PERCENT
Training courses, workshops and seminars	55	26·7
Conference of heads of schools	35	16·9
Audio-visual services	23	11·2
Library service	22	10·7
Intensive work	20	9·7
Starting of clubs	16	7·8
Organization of experimental projects	15	7·3
Directional help from the co-ordinator and the training college staff	14	6·8
Publications	6	2·9

Many of the administrators, 55 in number or 26·7 percent, took advantage of the training courses, workshops, and seminars. Conference of heads of schools came next in the list with 35 responses or 16·9 percent and audio-visual services and library services received almost the same response. It is to be noted that administrators did not make much use of the publications as this item was last in the list with 6 responses or 2·9 percent.

FOLLOW-UP ACTIVITIES FOR CONTINUING THE ADVANTAGE DERIVED FROM THE EXTENSION SERVICES: Out of a total of 69 administrators, only 27 in number or 39·1 percent remarked that they had a plan of follow-up activities for continuing the advantages derived from the extension services. Some of the follow-up activities carried on by the administrators are given below:

1. The teachers who attended the in-service activities should give report of the activities at the teachers' association meetings or subject teachers' meetings. Later, interested teachers to discuss them in smaller groups.

2. Carrying out the new techniques or methods suggested at the seminars or workshops in the classrooms.

3. Teachers from neighbouring schools getting together to share the experiences gained through participation in in-service activities.

4. Using the information and practical knowledge obtained at the training courses and workshops, to improvise teaching aids and to make inexpensive charts and maps.

USEFULNESS OF THE PERIODICAL VISITS OF THE CO-ORDINATOR AND THE STAFF OF THE TRAINING COLLEGES: Question VIII in the questionnaire was designed to find out if the visits of the co-ordinators and the staff of the training college were useful and, if useful, the reasons for the same. A total of 12 administrators or 15·4 percent did not answer, since the co-ordinator or the training college staff had never visited their schools. The other administrators gave reasons for considering the visits of the co-ordinators and the training college staff useful and these are tabulated in Table VII. Many of the responses, 30 in number or 34·1 percent, indicated that visits served as incentives for improving instructional methods. It was noted that the reason least checked was that the visits were useful in identifying and solving problems in a classroom situation.

TABLE VII: DISTRIBUTION OF ADMINISTRATORS' RESPONSES CONCERNING THE USEFULNESS OF THE VISITS OF THE EXTENSION AND TRAINING COLLEGE STAFF

REASONS	NUMBER OF RESPONSES	PERCENT
As incentive for improving instructional methods	30	34·1
Teachers profit from demonstration lessons given by specialists	25	28·4
Help and guidance to individual teachers	22	25·0
Problems are more easily identified and solved in a classroom situation	11	12·5

PREFERENCE FOR THE TYPE OF IN-SERVICE ACTIVITY: In question IX, the administrators were asked if they preferred the intensive type of activity conducted in individual schools or in nearby schools, as compared to the extensive type organized at the extension centre. A total of 60 administrators or 87·1 percent preferred the intensive type of activity and the rest 9 or 12·9 percent opted for the extensive type. The administrators' responses concerning the reasons

for selecting any one type of activity, are indicated in Table VIII.

TABLE VIII. DISTRIBUTION OF ADMINISTRATORS' RESPONSES CONCERNING PREFERENCE FOR INTENSIVE AND EXTENSIVE TYPE OF ACTIVITIES

REASONS	INTENSIVE TYPE		EXTENSIVE TYPE	
	NUMBER	PERCENT	NUMBER	PERCENT
Equal chance for interested teachers to participate	28	23·3	5	41·7
Attempt to solve specific problems of each school	26	21·7	1	8·3
More cooperation among teachers who handle one class	26	21·7	2	16·7
Stimulates immediate action for the improvement of classroom instruction	24	20·0	—	—
Time schedule more suitable	16	13·3	4	33·3

SUGGESTIONS FOR MAKING THE WORKSHOPS, SEMINARS, TRAINING COURSES AND OTHER ACTIVITIES ORGANIZED BY THE EXTENSION SERVICES MORE USEFUL TO THE TEACHERS: The administrators' responses to this last question are represented in Table IX.

TABLE IX. DISTRIBUTION OF ADMINISTRATORS' RESPONSES IN REGARD TO MAKING THE IN-SERVICE ACTIVITIES MORE USEFUL TO TEACHERS

SUGGESTIONS	NUMBER OF RESPONSES	PERCENT
More demonstration lessons	43	18·9
Satisfactory arrangement for allowances	39	17·2
Books in regional languages	37	16·3
Greater use of audio-visual materials	32	14·1
Increase the intensive type of activities	27	11·9
More cooperation between extension services and State Department of Education	26	11·5
Increase the extensive type of activity	15	6·6
Incentives	8	3·5

The maximum responses 43, or 18·9 percent were for providing more demonstration lessons. The next two suggestions in the list, namely arranging for adequate travel expenses and daily allowances and providing books in regional languages, had approximately the same percentage of responses. The administrators' responses concerning the provision of some kind of incentives for teachers for their participation in in-service activities were the smallest in number, 8 or 3·5 percent.

Major Findings of the Study

1. Administrators are of the opinion that the most valuable advantage derived from the in-service activities of the extension centres is teacher growth in terms of subject matter competency, new methods and techniques, and increased professional interest.

2. Administrators take more advantage of training courses, seminars, and workshops than any other programmes offered by the extension centres.

3. A majority of the teachers have participated in training courses on the teaching of English and Science and workshops on the preparation and use of audio-visual aids.

4. Meetings organized for the establishment and functioning of clubs in schools have been well attended. Science club meetings have a priority over Social Studies club meetings.

5. The most commonly used new techniques are the group method in the teaching of classroom subjects, and improvising and using inexpensive teaching aids. As a result of using these new techniques, teachers reported improvement in class discipline and pupil interest. The

new activities introduced by a majority of the teachers are, maintaining class libraries and starting of subject clubs.

6. Most frequently reported factors that hinder the teachers from introducing or successfully working some of the new techniques and methods are as follows: lack of time, insufficient provision for travel expenses and daily allowances to attend in-service activities, too much emphasis on final examination, and a rigid syllabus to follow the whole year round.

7. A majority of the teachers and administrators have participated in science fairs which helped a great deal in discovering science talent among pupils.

8. Approximately fifty percent of the teachers stated that they are not aware of the availability of the books and journals at the extension centres. Those who borrow books, use them for general reference and they obtain them by making requests to the extension centres, through their headmasters.

9. Books and journals have been relatively little used by teachers because of the insufficient supply of books written in regional languages and the inadequate procedure adopted for borrowing them.

10. The audio-visual aids, films, filmstrips and charts in Science and Social Studies are in high demand but the arrangements for securing any of the aids from the centres are not adequate.

11. Administrators and teachers indicated that the co-ordinators and/or the staff of the training colleges, on an average, visit the schools only once a year. However, the schools near the centres are paid more visits.

12. Administrators and teachers reported preference for intensive type of activities conducted in individual

schools or in nearby schools to the extensive type organized at the centres.

13. The most common suggestions given by the teachers and administrators for improving the in-service activities are, (a) to organize more demonstration lessons, (b) to provide more books written in regional languages, and (c) to make satisfactory arrangements for the payment of travelling and daily allowances to the participating personnel.

BIBLIOGRAPHY ON EDUCATIONAL EXTENSION

Eversince the establishment of extension services departments in secondary training colleges in 1955, there has been continuous and considerable flow of published material on educational extension. This is available mainly in the form of articles in the periodicals, presentation of discussions and deliberations in the reports of conferences and seminars, and chapters in books on teacher education. Some exclusive publications dealing with different aspects of extension also came out. Reports of education commissions and study groups, established from time to time, form a significant source to understand the sequential development of these programmes in the country. Another source of information is the unpublished material in the form of dissertations on different topics concerning extension programmes for teachers in India and abroad. These were mostly prepared in part fulfilment of degrees or diplomas. All these cover a wide variety of issues, viz. philosophy, curriculum, techniques and methodology of teacher preparation in service, roles of different agencies and personnel in educational extension and so on.

Two major sources of ideas for development of these programmes have been: (1) *philosophy of extension, including experiences of*

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extension-workers in other fields like agriculture, community development, medicine, etc., and (2) *experience of other countries in providing in-service education for teachers. Literature prepared in the United States in this connection, has been of special utility to us and it has considerably influenced our planning and working of educational extension programmes.*

These form a rich and vast source of information for workers in educational extension. But a serious student of educational extension cannot afford to ignore important contribution of different social sciences to the understanding and development of these programmes in education. Advances in major areas like sociology, economics, political science, anthropology have a lot to claim the attention of extension workers in education. Similarly these workers have to take cognizance of advances in physical sciences. There has been considerable increase of literature in these areas recently and they have all their bearing on extension work for teachers.

In view of the above broad sources of information, the area of literature for extension workers will naturally tend to be very wide. But the scope of present attempt is somewhat limited. Only those publications have been included in the following list, which almost directly refer to extension work in education to promote in-service growth among teachers. For purpose of convenience of the readers these publications have been mentioned under the five broad categories, viz., books, periodicals, reports, unpublished material and pamphlets and documents.

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ABOUT THE BOOK

The book covers a wide range of topics, including a section on in-service education in some of the foreign countries. I have no doubt the book will make a valuable contribution towards stimulating thought and discussion of important aspects of teacher education, and towards improving its contents and quality.

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